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J. P. WICKERSHAM, Editor.

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J. P. WICKERSHAM, EDITOR.

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ARITHMETICAL REASONING: INDUCTION IN ARITHMETIC.

BY PROF. EDWARD BROOKS.

MATHEMATICS is a deductive science, and all of its truths, not axiomatic, may be derived by a deductive process of reasoning. Is it possible, however, to obtain any of these truths by Induction? This is a disputed question: it will therefore, it is thought, be of interest to enter somewhat into details in its discussion. I believe it can be shown that there are many truths in mathematics that can be proved by induction; and, furthermore, that many of its truths were originally obtained by an inductive process.

Induction, as is generally known, is a process of thought from particular facts and truths to general ones. It is the logical process of inferring a general truth from particular facts or truths. Thus, if I observe that heat will expand the several metals, iron, tin, zinc, lead, etc., I may infer, since these are representatives of the class of metals, that heat will expand all metals. It is thus seen to be a process of reasoning, based upon the principle that what is true of the individuals is true of the class. The basis of Induction is the general proposition that what is true of the many is true of the whole; or, as Esser states it, "what belongs or does not belong to many things of the same kind belongs or does not belong to all things of the same kind." That this method of reasoning can be employed in arithmetic, appears evident *à priori*. It is certainly not unreasonable to suppose that we may, upon finding a truth which holds in several particular cases in arithmetic, infer that it will hold good in all similar cases. This conclusion is strengthened by the fact that arithmetic is somewhat special in its nature, particularly so as compared with algebra. Its symbols represent special numbers, and dealing thus with special symbols, it is to be expected that we would discover some truths which hold in particular instances, before we know of their general application. That it is not only possible to reason inductively in arithmetic, but that we do reason thus, may be shown by actual examples.

First, take the property of the divisibility of numbers by *nine*. Suppose that, not knowing this property, I divide a number by 9, and then divide the sum of the digits by 9, and thus see that both remainders are the same. Suppose I should try this with several different numbers, and seeing that it holds good in each case, I infer that it is true in all cases, should I not have entire faith in my conclusion, and would not this inference be well founded? This is an inductive inference, and is as legitimate as the inference that heat expands all metals, because we see that it expands the several particular metals, iron, zinc, tin, etc.

Second, take a number of two digits, as 37; invert the digits and take the difference between the two numbers, and we have 73—37 equal to 36, in which the sum of the two digits, 3 and 6, equals 9. If we take

several other numbers of two digits and do the same, we shall find the sum of the two digits to be also 9; and thus, observing that this is true in several cases, we infer that it is true in all cases; in which we again have a true inductive inference.

Third, take a proportion in arithmetic, and, by actual multiplication, we will see that the product of the means equals the product of the extremes. Examining several proportions we shall see that the same is true in each case, and from these we can infer that it is true in all cases, in which we again arrive at a general truth by induction. This is not only legitimate inference, but it is actually the way in which pupils naturally derive the truth before they understand how to demonstrate it.

Now, of course, each of the above principles will admit of rigorous demonstration by deduction; what I hold, and what I think is clearly shown, is that they may also be derived by induction. Deduction would prove that they must be so; induction merely shows that they are so. Many other examples from arithmetic might be given in illustration of the same things. But the use of induction in mathematics is not confined to arithmetic; if we go to algebra we will find that the same method of reasoning may be, and indeed is, employed there. The theorem, $x^n - y^n$ is divisible by $x - y$, may be proved by pure induction. Try the several cases, $x^2 - y^2$, $x^3 - y^3$, $x^4 - y^4$, etc., and seeing that the division is exact in the several cases, it is entirely legitimate to infer that it will be exact in all similar cases, or that $x^n - y^n$ is divisible by $x - y$. The same thing may be shown in many other cases, but it is needless to multiply examples. Even in geometry the same method may be applied. I knew a young person who before he studied geometry, derived by trial and induction the fact that there may be a series of right-angled triangles, whose sides are in the proportion of 3, 4, and 5; and there is no doubt that the ancients knew that the square of the hypothenuse equalled the sum of the squares on the other two sides, long before Pythagoras demonstrated it.

I have said that some of the truths of mathematics were discovered by induction. Among these the most prominent, perhaps, is Newton's Binomial Theorem. Newton discovered this theorem by pure induction. He left no demonstration of it, and yet it was considered of so much importance that it was engraved upon his tomb. His first principles of Calculus where somewhat inductive in their origin, as may be seen in his Principia.

The following formula is used for finding the number of primes up to the number x, when x is a large number.

$$N = \frac{x}{A \log x - B};$$

in which N denotes the number of primes, and A and B are constants to be determined by trial. This formula was derived by a process of induction. It is found to satisfy the tables of prime numbers, but no deductive demonstration of it has yet been given, and it must therefore be regarded as empirical.

In the theory of numbers we have the following remarkable property: *Every number is the sum of one, two, or three triangular numbers; the sum of one, two, three, or four square numbers; the sum of one, two, three, four, or five pentagonal numbers; and so on.* This law, though known to be entirely general, has never been demonstrated except for the triangular and square numbers. It was discovered by Fermat, who intimates, in his notes on Diaphantus, that he was in possession of a demonstration of it, which, however, is doubtful, since such mathematicians as Lagrange, Legendre, and Gauss have failed to demonstrate it. The general law is at present accepted on the basis of induction.

It is thus clearly seen that many of the truths of mathematics can be derived by induction; that is, by inferring general truths from particular cases. It is not claimed, however, that this changes the nature of the science. I have before said that mathematics is a deductive science: my object has been merely to show the error of those who hold that it is impossible to derive any of the truths of mathematics by induction.

I have called especial attention to this subject, on account of the obscure and conflicting views which seem to exist concerning it. Several authors speak of the inductive methods of treating arithmetic, while others as positively assert that there can be no inductive treatment of the science. The logicians lead us to infer that induction cannot be applied to mathematics, and not a few of them distinctly assert it. Dr. Whewell says, in speaking of mathematics: "These sciences have . . . . . no process of proof but deduction." Prof. Dodd wrote several pamphlets to prove that there can be no such thing as inductive reasoning in arithmetic, and several of those whom he criticised in these articles, have acknowl-

edged the correctness of his views, and consequently, their own mistakes.

These views, I have already shown, are only partially true. Arithmetic is a deductive science; all of its truths may probably be derived by deduction; but it is equally true that some of them may also be obtained by induction, as has been shown above; and also, that some of them are accepted alone on induction, having never been demonstrated.

Great care should be exercised, however, in the use of induction in mathematics. Several supposed truths which were derived by induction were subsequently found to be untrue. Fermat asserted that the formula, $2^{2^m} + 1$ was always a prime when m was taken any term in the series 1, 2, 4, 8, 16, etc, but Euler found that $2^{32} + 1$ was a composite number. Lagrange says that Euler found by induction the following rule for determining the resolvability of every equation of the form $x^2 + Ay = B$, when B is a prime number: the equation must be possible when B shall have the form $4An + r^2$, or $4An + r^2 - A$. This proposition holds good for a large number of cases, but the equation, $x^2 - 79y^2 = 101$, Lagrange proves to be an exception to it.

The danger of inductive inference in mathematics is also seen in some of the formulas for prime numbers, which hold good for many terms, but at last are found to be untrue. Thus the formula $x^2 + x + 41$, holds good for *forty* values of x. The formula $x^2 + x + 17$ gives *seventeen* of its first values prime; and $2x^2 + 29$ gives *twenty-nine* of its first values prime.

Having shown that mathematics, though a deductive science, will admit, in some instances, of an inductive treatment, it may be remarked that such treatment is especially adapted to young pupils in the elementary processes of arithmetic. It is difficult for them to draw conclusions from the principles established by a deductive demonstration; hence, in some cases, it may be well for them to employ the inductive method. The rules for working fractions may be derived by an inductive inference from the solution of a particular example; and this method will be much more readily understood than the derivation of them from general principles deductively established. The method is to solve a particular problem by analysis, and then derive a general method by an inductive inference from such analysis. Thus analysis and induction become, as it were, golden keys with which we unlock the complex combinations of numbers.

It will be well, however, to lead the pupils to the deductive method as soon as possible. Most students will make the transition naturally. The better reasoners among them, will themselves rise from this inductive method, being satisfied only with a deductive demonstration, and in this they should be encouraged. They will often see the deductive, or a necessary idea, behind the inductive process. They will sometimes discover a truth by trial and inference, that is, by induction, and then learn to demonstrate it deductively; and it will be a useful exercise for the pupil to have some especial drill in this manner. He will see the relation of the two methods of reasoning, and be impressed with the deductive nature of the science and the necessary character of its truths.

PARENT AND TEACHER—No II.

BY E. SCHNEIDER.

THE child, in commencing to learn, starts to make a journey, and every new subject is like a field upon which he never trod before. Although the new path, in which he now commences to place his little feet, is adorned with many pretty flowers, it has also many thorns. Hence persons who have trod this path before he did, and who have examined it with great care, should be appointed to guide the young traveler, and to teach him how to avoid the ugly thorns, and where to pluck the pretty flowers. The little learner finds also many a nut along his path, which he will throw away as worthless, unless his instructor, who never forsakes him if faithful, teaches him how to crush the nut; and taste the kernel. He who has gone over this field with the greatest care, and has examined faithfully all the rich treasures and beautiful objects along the way, will of course be able to find the largest number of beautiful gems; and, if he has also learned the peculiar tastes of his pupils, will know also what kind will please best and improve most. He who can do all this well, is a teacher that can realize what pleasure arises from the happy smiles and grateful actions of those whose hearts are full of love to their teacher for all he has done so successfully and happily for their benefit.

I do not wish however to be understood to mean, that the school-room is a place of pleasure only. In this world we cannot find

unalloyed happiness any where. Here roses, though sweet and beautiful, grow upon thorns; and the most delicious nuts are often encased in the most unsightly burrs. The very costliest gems come from the chilling deep. Nothing that is precious and highly valuable can be acquired without toil, and nothing that is noble and great can be accomplished without vexation and care. And where, in all our Father's creation, can we find a more precious gem, though in a body of repulsive propensities, than the soul of a human being of the tender years of confidence and love, when the feelings have not yet become soured by disappointment and sin. To polish this gem, to make it beautiful and pleasant to look upon, is worth all the harassing annoyances and wearing cares of the school-room. And the younger the pupils are, the more earnest and sincere is the affection with which they cling to you. In childhood there is little or no deceit. Children say just what they mean, and they mean what they say. They love without dissimulation. Hence, if a comfortable support could be earned in the position, I would much prefer being a teacher of little children, to that of students of a high school. For I do not believe it is possible to get nearer to the kingdom of Heaven on this earth than to be among little children, to enjoy their love and affection for the kind treatment they feel sure of receiving.

I have already said that the school-room is not a place of pleasure only. Many incidents occur in it, which give the teacher much perplexity and often produce considerable pain. And many of these unpleasant feelings are caused by the parents themselves. My experience in the school-room extends over more than a quarter of a century; and during this time I have had opportunity enough to observe the sad results of parents' improper interference in school discipline. I could give names of persons and places as illustrations of what I say; how a son, the pride of an ambitious father and the hope of a loving mother, commenced his career in disrespecting his teacher, and misrepresenting at home the difficulties of the school-room; and how, because *his* mis-statements were believed and the teacher's word was not credited; he soon left the school-room from necessity, and with increased depravity repaid the father by a course of conduct that finally brought disgrace upon the parents, and ended a life prematurely through folly and vice. Oh, ye imprudent parents, let not an unwise and inconsiderate blind love for your dear ones close your eyes against the irregularities of your children! "Whatsoever a man soweth that shall he also reap." How many of you go fast to your graves, bowed down with sorrow, on account of the conduct of a son or a daughter who has disappointed most bitterly all your fond hopes!

A pupil's unfavorable reputation in school reflects upon the parents themselves. Hence the unpleasant feelings produced in them when a report of bad conduct comes home against a son or daughter. But, however unpleasant such a state of things may be, if it be not properly and seriously taken to heart, and followed by suitable action on the part of the parent, discipline is at an end, and the child may be ruined. Don't be too ready to find an excuse for your child's misconduct, and, immediately thereupon, a cause of blame against the teacher. How quick the child will notice this, and how soon the influence of this feeling will appear in its defiant behavior in school! Have you the hardihood thus to cast obstacles in the way of him who works for your own welfare? Change your course. Aid your teacher in every way; put nothing in his path to hinder and embarrass him. If you suspect he has wronged your dear one, make him a kind visit at his home, and investigate calmly the whole difficulty. Such a course may save you much sorrow in the future. When you encourage and aid the teacher, you encourage and aid him in *your* work. The child is yours; its standing is yours; and its future happiness is yours. The teacher's work is to accomplish your heart's desire in all this. How can you, then, with a clear conscience, act so very unwisely in this great business.

Visit also the school room, and see how the teacher must toil. Do not fail to keep him in mind that no one can be a successful teacher unless he has a pleasant countenance and a cheerful heart in the presence of his pupils. But *can* you expect this of him if you never come near the school-room to cheer him with your presence, and your encouraging words? Do not think that we teachers are angels let down from Heaven and gifted with supernatural powers. Oh no! we are partakers of the same human nature with yourselves. We get out of patience too, sometimes, and "lose our temper," as well as yourselves.

"Rebellion" appears on the back of a flying enemy, but "Revolution" flames from the breast-plate of the victorious warrior.—*Wilkes.*

THE BOY AGASSIZ.

BY CHARLES BERNARD.

I. HIS HOME.

IT was in Switzerland; the country of mountains and lakes; a small country, not much larger than the state of Massachusetts, and shut up in the centre of Europe far away from the sea. In the western part of Switzerland, near France, is the Lake of Neuchatel, a long lake, deep, blue, and as clear as crystal. On the west stand the Jura Mountains, and toward the east one can see the high Alps. The Jura Mountains come close up to the lake, so that the vineyards that are planted on the steep slopes almost overhang the water. The mountains on the opposite side do not come so near the lake, and there is a strip of level country along the shore. Near the northern end of the lake is another smaller lake called Lake Morat. Between these two lakes stands the little village of Mottier. It was here that John Louis Rudolph Agassiz was born, on the 28th day of May, 1807.

His father was a Huguenot clergyman. His grandfathers for several generations had been ministers of Protestant churches, and the family were originally from France. His mother was a native of this part of Switzerland, or the Canton of Vaud, as it is called. So Louis was a native of Switzerland, though belonging to a French family.

Mottier was a fine place for a boy. The village was small, and the woods, the grassy fields, the lakes, and the high hills were all within easy reach, and there was no end of sport to be found everywhere. There were birds in abundance in the woods, and as for fish, the lakes seemed to swarm with them. As for boating, it was the one thing that afforded unending delight to every boy in Mottier. Louis did not go to school till he was eleven years old. What he did with himself up to this time is not fully known. All we can be sure about is that he had the free run of the woods and hills, and had a glorious time fishing. No boy in Mottier had ever been known to like to fish quite so well as Louis Agassiz. He thought it was certainly the greatest fun that had ever been invented for the delight of small boys like himself.

Mottier is not like any village you ever saw in this country. The houses are made of stone, and the roofs of red tiles hang over the walls so that there are deep shadows under the eaves. There are balconies on nearly every story with stairs on the outside; and, as the roof hangs over them, these balconies are sheltered from the sun and rain. The family often sit out there in pleasant weather; and the railing is sometimes surmounted with rows of plants in pots, and bunches of dried grasses, onions, squashes, and the like, so that it looks from the street as if the family kept their store-closet out-of-doors. In the streets are stone troughs with streams of water spouting in silvery fountains out of iron pipes. Here the horses and cattle come to drink and the women come to fill their pitchers. There are no water-pipes in the houses nor gas-lamps in the streets, and the houses stand huddled together in a curious jumble, one house facing one way and the next the other way, so that the streets are crooked and narrow. There are no gardens in the village; but outside of the town the whole country is one vast garden, extending close up to the foot of the snow-mountains.

Most of the children preferred to play in the narrow and rather dirty streets. Louis always made his way into the open fields or out on one of the lakes. He knew the name and the song of every bird in the woods; he was personally acquainted with the family of storks that had such a ragged nest on the top of the chimney of one of the houses; and as for the fishes, he knew all their names and where they lived and what they best liked to eat. On the matter of bait he could satisfy the most diffident shiner that swam, or suit the most hungry pickerel that ever leaped out of the water for a fly or grasshopper.

The boats on the lake of Neuchatel are rather rude affairs. Round the landings of some of the towns, where the visitors from the hotels go out sailing, are boats that look like boats on the Hudson or Connecticut. The native boats, such as Louis must have used, were queer-looking skiffs, broad and flat on the bottom, very square at the stern, and with a low, broad bow that looked as if any extra big wave would certainly come aboard and swamp the whole clumsy affair. As for oars, no American boy would think of using such clumsy things. It was all the same to Louis. It was a boat, and it would take him out on the wide, blue lake, so deep and clear, and would float him right over the pools where the best fishes lived.

There are two ways of going a-fishing; one way is to catch as many fish as you can, take them home, cook them, and eat them up; another way is to catch them for the sake of seeing what they look like, learning their habits, finding out how they live, and then letting them go again, or keeping them to show other people how such fishes really look. Boys generally fish on the first plan, and count their greatest gain in having a good string for the frying-pan. Louis went on the other plan. He went to learn something about the fish, whether he caught any or not. He was more anxious to catch one of each kind than to get the extra big fellows that were so fine for the cook. He wanted to see how they looked, to count the stripes on their backs, to look at their fins, and in fact to know all about them. If he caught an extra fine one, he was more ready to cut him open to see how many bones he had, and to take him apart like a watch to see how he was made, than to make him ready for the dinner-table. Perhaps you think this very silly in him. Louis would not have agreed with you. He cared more to know about the fish than to eat him.

Then he used to catch fishes that were not fit for the table. Minnows, hornpouts, and other fishes that boys think very small game were his delight. He did not wish to eat them, but he did want to know how they looked, and what kind of eyes they had, and how the scales were colored. The water of Lake Neuchatel is wonderfully clear, and when the waves are still one can see the bottom where it is quite deep. Our ponds and lakes are brown or ruddy with iron stains. These Swiss lakes have blue and white water that is like glass when it is calm. Louis took advantage of this, and leaning over the long bows, where the shadow of the boat kept away the reflection of the sun, he would watch the fishes playing round his line for hours. He did not seem to care much whether he caught anything or not, provided he could study their habits and learn how they lived. In time he found out where they laid their eggs; he knew by heart all the different kinds of food they had, and knew just when they came up to the surface to catch the stray flies, or when they sought out their soft beds, where they spent the winter. After a while he knew the name of every fish in the whole lake, and was personally acquainted with every finny family that swam or crawled in its waters.

When he was eleven years old his father decided to send him to school, and with his younger brother Louis set out for the academy, or gymnasium as they called it, at Bienne, a small town in the next canton. About this time the Agassiz family moved away from Mottier, and went to live in the valley of the Orbe, at the other end of the Lake of Neuchatel, toward Geneva.

II. HIS VACATIONS.

So far we have seen how the young Louis spent his time before he began to go to school. He watched the birds, made friends with the butterflies, and went fishing. Certainly he must have had a very fine time. His life was one long excursion in the woods and by the lakes. He spent the whole time out-of-doors, and in watching what was going on in the air, on the ground, or under the waters. Perhaps you think he must have been an idle boy. Not at all. He worked hard and tramped many a mile merely to find and examine something new in the way of bugs, birds, or fishes. It was a play-day time; but he did not play after the fashion of boys generally, for he was exceedingly busy learning how each bird built her nest and where certain flowers grew; what insects lived in the trees, and which fish hid in the deep pools or swam through the shallows where the reeds grew out of the water and the kingfisher sat motionless on the willow-tree.

When he was sent to school at Bienne it did not seem any very great hardship. Had he not been studying all his life? Not out of books, to be sure, but out of a great and splendid picture-book, as big as the whole world. He had read but one page, and that page only included the country round his home on the Lake of Neuchatel. Still it was better than any story-book, because it was all real and true.

Bienne is a pleasant town at the northern end of the Lake of Bienne and at the foot of the Jura Mountains. This lake is smaller than the Lake of Neuchatel, and is only a few miles to the north of it; so that when Louis went to this place to school he did not move very far away from his old home in Mottier. What he did at the school is more than we know. We can be sure he was not idle, for at the end of the four years that he spent there he was counted one of the best scholars in the whole school.

How could that be? A boy who likes to fish so much seldom makes a good scholar. Yes; but you must see that with all his love for fishing, boating and roaming through the woods, he was a student. If he had spent days in drifting about in his boat, it was because he was studying the fishes and teaching himself to observe and to understand quickly what things meant when he saw them happen. In learning the names of all the birds he had taught himself to remember things, and in catching butterflies he taught his eyes and his fingers how to work quickly and surely. Of course such a boy took to books easily, and got on twice as fast as a stupid boy who had never noticed the difference between the nest of a barn-swallow and a robin-redbreast.

The school at Bienne had vacations, just as our schools do here, and Louis made the most of them. His father had moved away from Mottier, and had taken a house at a place called Orbe, at the other end of the Lake of Neuchatel. Here Louis went to spend his vacations. It was away from the lake and up a narrow valley between the mountains. The Jura Mountains crowd close up to the narrow river that flows through the place, and the town is shut in on every side by steep hills and rocky cliffs.

He was as ready as ever to explore the country round about, and every day was spent in watching the birds and insects and in examining the flowers. As he grew older he found that the birds and plants could not always tell him all he wished to know about themselves, and he began to study the books that had been printed about such things. His vacations were for rest and play, and instead of that he took up Natural History in all its branches, and worked away harder than ever at finding out everything he could about birds, plants and fishes.

Fortunately there was a young clergyman at Orbe who liked such studies, and Louis made arrangements to study with this Reverend Mr. Fivaz. With Mr. Fivaz for a master, Louis took up Botany, and day after day they roamed through the fields and over the hills, examining every plant that came in their way, learning its name, comparing it with other plants, picking it to pieces to see how it was made, and finding out all there was to be known about it. When it rained and the walking was bad Lous went to Mr. Fivaz's house, and together they went through the books on such matters, studying hard from morning till night.

And all this was in vacation time, when Louis was free to play with the other boys in the streets of Orbe or to do nothing at all if he felt so inclined. He certainly was not so inclined, and during the four years he was at school at Bienne he spent every day of his vacations in hard study with his friend and tutor, Mr. Fivaz. Not plants alone, for Louis was so much interested that he learned very quickly, and he was soon ready to take up other natural sciences. Geography proved to be wonderfully easy. Had he not seen islands, capes, continents, peninsulas, and all other divisions of land and water in miniature all about the lakes; and as for mountains and hills, had he not seen them all his life?

Not far away from Orbe stands a fine mountain, almost as high as Mt. Washington in New Hampshire, and known as the Dent de Vanlion. No wonder they called it the "Tooth of Vanlion." It was like a sharp tusk, pointed and hard, and almost as steep as the wall of a house. Were it not that there was a grassy slope on one side, the venturesome Louis could not have climbed to the very top and sat down on the bare, windy summit.

The great picture-book of the world lay wide open before him, and it seemed as if he could read a dozen great pages at once. At his feet and far below him ran the winding valley of the Orbe, with the crooked river looking like a linen thread spread over the green carpet of the grassy meadows. Behind him stood the stony peaks of the Jura, stretching, mountain beyond mountain, far away into France.

To the southwest, up the valley of the Joux, he could see the little mountain-lake of Joux, and toward the southeast he could see the blue waters of the Lake of Geneva. Far away to the east was a more wonderful sight than all—the Alps, the snow-mountains. He never tired of looking at them, and learned to call them by name, from the beautiful Jungfrau to the north far round to the glorious Mount Blanc, noblest mountain of them all. How the snow-fields glistened in the sun! He could trace the great ice rivers—the glaciers—as they wound down the rocky valleys. He saw the clouds drift over the sharp peaks, and almost fancied he could see the tiny puffs of white smoke that showed where the ava-

lanches rushed in thundering crash into the echoing valleys. He could not really see them, for he was too far away; but he made up his mind he would see them some day, and that when he was a man he would cross the great ice rivers and see the real glaciers, with their mountains of blue ice and strange heaps of rolling stones. Sometimes he staid on the Dent de Vanlion till the sun went down, and then he saw the snow-mountains turn to fire in the setting sun. First the white snow began to blush and look warm; then the rocks became ruddy; in a few moments the white Jungfrau was like a cherry, and Mount Blanc became as a rose whose heart was on fire. How the mountains blushed and glowed and bloomed into splendid color! This was the Alpen glow—the evening dress-parade of the snow-peaks. Then the color faded as the sun went down, and the mountains stood out blue and cold against the purple sky, where the yellow moon rose above the sharp peaks in such splendor.

Truly, the world was a great and notable picture-book, and when he became a man he meant to study it, and learn to read every one of its rocky pages.

III. HIS SCHOOLS AND SCHOOL-MASTERS.

Louis Agassiz was very fortunate in his school days. The different schools that he attended were all pleasant places. First he went, at eleven years of age, to Bienne, in the western part of Switzerland. After staying there four years he joined the academy at Lausanne. Think of going to school at Lausanne! People cross the Atlantic and travel over half of Europe merely to visit this beautiful city. And here Louis lived two whole years, except when at home in the valley of the Orbe during his vacations. What a place for a school! The Lake of Geneva, the woody hills all about the town, the gardens and vineyards, and over the blue water stand the Alps.

The town is built in a curious fashion on two steep hills, and there is a bridge over the valley to join the streets together. In the centre of the town stands the great cathedral, with its monuments, pictures and painted windows. Every where are pleasant walks over the hills and down to the water-side, where the steamers call on their voyages round the lake.

We almost wonder how any boy could study in such a place. He would always want to look out the window at the lake or the mountains, or down to the shore and watch the boating and bathing parties. With all his love of nature, Louis was not the boy to neglect his studies. Much as he liked to roam through the woods and study plants and living creatures, he did not think he could neglect his education for such things as these, delightful as they were.

He meant to be a doctor when he became a man, and there was no time to be lost in getting ready. He soon finished his two years at the academy, and left Lausanne for the medical school at Zurich. Here again he is in a town famous the world over for its beautiful scenery. Another lake, more mountains, and charming walks in every direction. Certainly Louis was favored in his schools. The medical college at Zurich is one of the best in the world, and we may be sure that he made the most of his chances. He remained in Zurich for two years, and then removed to the university at Heidelberg, in Germany, and after that he went to the university at Munich, in Bavaria.

These were the schools he attended when a boy and young man; but at the same time he went to another school, and had other and greater school-masters. The schools ot Bienne and Lausanne, and the colleges at Zurich and Heidelberg could not teach him half so much as the great stone-book that was always open before him whenever he walked out in the fields or gazed upon the mountains. The Alps were his real school, and the clouds, the brooks, the silvery waterfalls, the lakes, the glistening fields of snow, and the glaciers were his schoolmasters. We may be sure that every moment that could be spared from his books were given to the study of these things, and that he was ever ready to learn whatever Nature had to tell him. The moment his vacations released him from his book he was off to see where the white and foaming brooks pushed sandy capes out into the lakes. He climbed over the hills and pushed boldly on close up to the edge of the snow-fields to see the pale, delicate alpen flowers that bloomed so near the ragged ice. He measured the piles of rounded stones and rubbish thrown up in such vast heaps just where the freezing water rushed in foam out of the green walls of ice that makes the bottom of the great frozen rivers called the glaciers. He wondered where such piles of stones came from, and what had made them all so smooth and round. With iron spikes in his shoes and with an alpenstock in his hand, he ventured out over the slippery ice-rivers, and wondered where they came from and if they moved. Everywhere he questioned things, and asked what everything meant and what it was designed to do. The rocky peaks, the snow-fields, and the ice-rivers could not speak, but to the young Louis they had a language he could understand, and in time he would learn its alphabet and perhaps spell out the wonderful things they had to tell.

The birds, the fishes, the brooks, the glaciers, and the mountains, all had something to say to him. If he had time, he would give his whole attention to them, and try to understand them, that he might write it out so that men might see what a wonderful thing this great world is, and how grand and wise the Good Father's plans had been in making it. But that could not be. He must study medicine at the schools and become a good doctor, and learn what to give a girl with the toothache, or how to mend a boy'sfinger when he cut it with his knife.

Perhaps, as he saw these things and thought about his studies at the schools, he may have wished that it was different, and that he might always study the rocks and the rivers, the world and all the strange things it held, and leave the medicine to somebody else. As he looked at the glaciers he wondered what such strange frozen rivers meant. They had a secret. No man understood how they came there or how long they had existed, and no one could explain the rounded stones that lay in such long winrows on the top, or could tell how they got there. What a glorious thing it would be to camp out on the edge of some glacier, just where it seemed to sweep down like two mountain-peaks like a river, and to watch it day by day to see if it moved, and to learn all its strange story! If he could only do some such splendid work as this, how gladly would he give up being a doctor and leave the medical schools forever!

It would never do. He could never earn anything in watching the birds and fishes, and in roaming over the snow-fields of the high Alps or in watching the glaciers. It was all a dream, and he must give it up and go to work and earn a living. Well, if came to that, he would go without the money.

Perhaps he could earn enough to support himself by teaching, and then he would content himself with a very little, and give his time to the study of the great book of nature.

And so he did. He never became a doctor; but instead of that he had his great wish, and studied the rocks, fishes, and ice-rivers and mountains, and men called him the great naturalist. He never did make much money at it; he did not care for that. He found out how the glaciers moved; he learned more about fishes than had ever been known before; and he became one of the greatest teachers that ever lived.

All his life-long he studied the great picture-book of the world, and collected specimens of every bird that flies and every fish that swims. He traveled over the seas and visited many strange countries, and wrote many things about them that you should all learn to read. During a large part of his life he lived in this country; and the Swiss boy who used to fish in the Lake of Neuchatel became the great teacher at Cambridge whom we all knew as Professor Agassiz.—*Morton's Monthly.*

ART SCHOOLS IN SOUTHERN GERMANY.

BY SCHELE DE VERE.

IN one of the most beautiful parks of the Old World there rises on a slight eminence, a vast building, presenting to the south a line of immense windows, and filled in winter with the magnificent old orange trees of the Royal Gardens. Hence its name of the Orangerie, by which the good people of Stuttgart, the capital of Würtemberg, designate the noble structure. During the summer months of the year 1872, however, the building contained treasures of vastly greater import for the little kingdom than the costliest exotics and the rarest plants of the world. Every five years an exposition is held there of a special class of schools, the usefulness of which cannot be well over-rated, whether we look at the tangible results shown in this great hall, or at the influence they exercise on the taste and the wealth of the people.

From time immemorial the people of Southern Germany have exhibited rare talents for the higher branches of mechanical arts. No traveler through Swabia and the lands on the Rhine can help being struck with the exquisite beauty of villas and villagers' houses, while railway-stations, and even the flag-keepers' little huts, are often real master-pieces of architecture, and loaded with a profusion of admirable wood-carving. Swiss carvings are familiar to most of us; but the wealth of ornamentation with which the modern houses of Germany are decked is a matter of wonder and admiration to all new-comers. From majestic Berlin in the north to the smallest village in the south these new structures show in every feature of their architecture a master's hand; lintel and coping, window-frames and cornices, are cunningly carved by skilful stone-masons; front and sides are covered with fresco-painting in subdued colors and classic patterns; and in suitable places, over the wide entrance-gate or in well-arranged medallions, the sculptor finds room for a noble statue or a portrait-bust. Nor is this love of ornament limited to the great and the rich; the humblest house has its galleries with richly-carved railings and graceful cornices, and even the vintner's modest hut in an cucumber-field has its few titbits of rich coloring and delicate carving.

The skill which has placed all these sources of enjoyment, these etchings of beauty which remain "a joy forever" to the educated eye, within reach of all, is the result partly of an innate love of the beautiful granted from on high to most Southern nations, and partly of an admirable system of education which finds its expression in the above-mentioned exhibition. For long years the little kingdom of Würtemberg has been famous among German principalities for its Sunday drawing-schools, frequented by mechanics of all degrees, from the youthful apprentice to the hoary master. Here, during the hours not devoted to divine services, volunteer teachers, enthusiasts for their art, met their volunteer pupils, and taught them drawing in all its various branches. The time was necessarily very limited, and hence, for many years, no real artistic skill could be obtained in these schools except by a few rare children of genius. The hard, coarse work of the week often destroyed the delicate touch required for holiday labors, and the eye alone could be permanently benefited.

It was not until the year 1854 that the general interest felt in this kind of instruction by men of influence and far-seeing statesmen on one side, and by the eager, ambitious mechanics of town and country alike on the other side, led to the establishment of regular evening or night schools for the same purpose. It was a noble sight to watch the weary artisan and the hard-working mechanic come hither after a day's incessant labor, still anxious to improve, to learn, and to benefit others as well as himself. Youths of barely fifteen, sturdy men in the full vigor of their strength, and old, gray-haired masters, all met here as humble pupils to teach the stiff fingers new and rare

skill, to train the eye to perceive unsuspected beauties, and to reproduce with the brush or the burin, the hammer or the saw, the masterpieces of great artists. The schools were over-crowded; soon one hundred and twenty-five such institutions sprang up in the small kingdom; the indispensable expenses of room rent, gas, models, etc., were cheerfully borne by the eager learners, and ere long the results appeared in every town and every village. Low, dark huts were replaced by bright, cheerful houses; dirty mud-walls reappeared as bright, stuccoed surfaces, to which a few sparing bits of color gave light and beauty; the low door with its stone seat displayed a modest garland of well-carved flowers, to take in winter the place of the vine and the clematis; and neat little summer-houses arose, as if by magic, in every garden. Far greater, of course, was the change in towns and cities, where entire new quarters were built in the improved style of architecture, giving the mason, the painter and the sculptor ample opportunity to display their newly-acquired skill. But the most cheering encouragement came when the great London Exhibition revealed to the astonished multitude the beauty and the skill displayed in the workmanship of mechanics trained in these Würtemberg schools, when prize after prize was obtained by their pupils, and when, finally, sensible Englishmen actually sent their most talented workmen to learn the secret of such great success, the joy and the pride of the people knew no bounds.

The immediate effect was the extension of the facilities heretofore offered only at night and during a few Sunday hours. Every school in the land, above the humblest, arranged a large hall, which was kept open on one day of the week to all who chose to avail themselves of the opportunity. Then winter courses of six months' duration were added for the benefit of laborers whose work ceased with the fine season. Finally a class of special schools sprang up, under the name of Fortbildungs-Schulen—literally schools for further advancement—to which all had free access who wished to profit by its instruction, and who were willing to pay the small fee required. For, as in the excellent public schools of the kingdom, so in these technical schools also, the principle was adhered to that he who could must pay, since no one values much what is given away without price. Those really unable to pay even the small fee required here and in all public schools find no difficulty in being admitted gratuitously; and thus education may be said to be virtually free throughout the land, from the village-school to the universities. In the case of the industrial schools the state pays one-half of the expenses, and the community in which the school is placed the other half, and nothing can speak more forcibly of the usefulness of these institutions, and the good sense of the people in appreciating their worth, than the fact that there are now four hundred such Fortbildungs schools in operation.

It was soon found that the eagerness with which instruction was sought, and the endless varieties of subjects for which pupils called, required a subdivision in the general purposes of those schools. They divided in the larger schools, into a mercantile department, where book-keeping, the laws of exchange (very complicated on the Continent), modern languages, telegraphing, etc., were taught, and an industrial department for geometry, physics, chemistry, mechanics, and the so-called fine arts. What deserves special praise is the fact that, with a view to the true interests of the other sex, special schools of this kind are established for married and unmarried women, and the benefits arising from the source of lucrative employment thus opened to deserving and well-qualified women can hardly be overrated.

Every five or six years all these Fortbildungs schools unite in holding a general exhibition, such as was held in 1872 in the city of Stuttgart. Separate alcoves are allotted to each district, and within the narrow compass each town or village has again its small space to itself. Here are shown not only the best that each school can boast of, but the actual working-books, drawings, and daily tasks of the pupil, inscribed with his name. This creates naturally an eager competiton; district vies with district, school with school, and pupil with pupil. The exhibition is visited by thousands; the king and his court never fail to inspect every part of it minutely; anxious friends and relatives crowd around the tables of their native place; artists and masters of every handicraft come from abroad to see and to learn; and foreigners examine with growing interest these works of humble, unlearned workmen. No branch of mechanical industry is wanting in this admirable collection, from the horseshoe to the artistic bronze, from the mason's rough centre-stone, to the sculptor's bust. The locksmith shows his new combination lock, and

the draughtsman his new patterns for calicoes and silks. Models abound in wax and in clay, in stone and in precious metals. The younger pupils content themselves with faithful copies of masterpieces, but many an exhibitor of barely fifteen already ventures to send his newly-invented problem in mixed mathematics, his original model of carving, or an etching of his own invention. In the purely ornamental department, female pupils excel naturally by native taste and a keener sense of the beautiful, and many are thus trained to compete with experienced artists for the very lucrative places of draughtsmen in great factories. Nor are the domestic wants neglected; cooking for the house and brewing for the multitude, the making of inlaid floors for the parlor, and the building of palaces and great institutions, are all thoroughly taught, as well as the art of the landscape-gardener, the horticulturist, and the florist. Agriculture alone is excluded, as that is taught in special schools, such as Hohenheim, which have already obtained a world-wide reputation.—*Appleton's Journal.*

MENTAL ARITHMETIC IN A SYSTEM OF EDUCATION.

J. M. GREENWOOD, STATE NORMAL SCHOOL, KIRKVILLE, MO.

THE philosophy of education, when properly defined, will embrace all the correct theories that have been advanced by educators in all ages of the world. Formulated propositions, deduced from the experiences of those who have both practically and theoretically investigated the laws of man's being, will be the result. The residue of theories, once supported by fierce and earnest advocates, but long since abandoned, will lie in profusion along the highway of civilization; while the subordination of the material world to man's wants, both physical and mental, will appear as remarkable epochs in the history of our race. Wrecks, hideous and frightful, will mark the route of man's development.

In this age of activity and excitement, it is not strange that many noble and generous minds are striving to solve the yet unsolved problem of human development. In Europe and in America, scholars, accurate and profound, are exploring the various fields of human thought; as a consequence, each laborer according to his predilection, brings his offering to the common altar. Notwithstanding each discovery may not be perfect, yet all lie in the domain of things real, and after eliminating the dross some precious ore is often found.

Hope, the characteristic of our nature, inspires anew, and defeat often leads to victory. How easy it is then to mistake in drawing general conclusions from particular premises. Owing to deficiency of intellectual power, lack of comprehension, want of general information, theories the most extravagant and absurd have, in many instances, held undisputed sway over the human mind. Flowing as a consequence from such conclusions are the following assumptions: All education worthy of the name is contained in the *ancient classics;* there is nothing noble except the *natural sciences;* everything should be eschewed but *music;* and fools only learn *mathematics.* Strange as these views may appear, and absurd as they are, thousands of willing devotees worship at these shrines.

When man rises above selfish acquisitions, and grasps the entire domain of all sciences, and arranges the different departments into one consistent and comprehensive whole, he will have reached the only correct position from which any theory of education is tenable,—therefore, it is a matter of the deepest interest that each subject, when presented as a means of development and culture, should be discussed with reference to its power as an educational force. The tendency of the age is to utilize all acquirements, consequently, whatever does not savor of dollars and cents is growing out of date. Will it pay? is the question asked by the student and the man of business. Culture, broad and deep, embracing man's entire nature, physical, intellectual, moral, social, and esthetic, is imperatively demanded. Some must do thinking, otherwise American educators will soon exhibit the pitiable spectacle of reflecting the echoes of the Transatlantic. If one truth in the history of humanity is more prominently noted than others, it is that no branch of classified knowledge can be mastered without special effort. The most gifted must toil patiently and persistently to climb the hill of science. There is no royal road to geometry, calculus, or astronomy; the same patient plodding that masters *Mental Arithmetic* leads the student through labyrinthian mazes of the ancient classics, and will transport him from the vale of the empirical to the elevated plateau of the transcendental.

Lately, men of acknowledged influence have endeavored to subordinate Mental Arithmetic in our public schools. This subordination is true or false; if true, it is wholly true, and if false, it is wholly false. If it can be shown that pupils who study Mental Arithmetic are disqualified to study other branches, and that they can gain a better knowledge of the Written Arithmetic and the Higher Mathematics without a good knowledge of Mental Arithmetic, then it should be discontinued in our schools; but if, on the contrary, it can be shown that a knowledge of Mental Arithmetic is indispensable in a correct system of education, then it should be retained in all our schools.

To be as explicit as possible, the subject will be discussed under the following divisions:

1. *The object to be accomplished.*
2. *Why it should be studied and not subordinated to Written Arithmetic.*
3. *Ultimate results.*

These propositions will be considered separately and in the order enunciated

The primary object to be accomplished is to make ready, rapid, reliant, and accurate arithmeticians. No one perhaps will deny the necessities of everyday life requiring such knowledge as indicated in the preceding sentence.

Teachers generally observe the aptness and correctness with which children that have been well drilled in mental arithmetic solve problems. As no science can give more accurate results than mathematics, the pupil early attains from mental arithmetic an independent, original consciousness of self-

activity and reliability. But all arithmetic is mental in this: It requires an effort of the mind to solve any question. To take a problem in all its details before the mind, to hold it there at will without the aid of pen or pencil to assist the memory, to analyze its conditions and relations, is a mental solution.

Who are our best arithmeticians? Do they triflingly thrust mental arithmetic aside? What is the testimony of a large majority of the most successful teachers of mathematics? What do our best authors recommend? Do they join those who continually clamor for subordination? Two pupils, of the same natural endowments, having had the same opportunities, one has been thoroughly drilled in mental arithmetic and the other has not, are called to the black-board; a problem is read to both, and a complete written analysis is required. Which will reproduce, analyze, and discuss the problem properly? There is but one answer. No difference how gifted, those students not drilled in mental arithmetic will never overtake their more fortunate classmates. How can these results be secured is the question? Certainly not by neglect. Drill, eternal drill, is the price paid for knowledge. The true educator cannot denounce the languages, natural sciences, or mathematics, for these are the complements and the supplements of each other.

Why it should not be subordinated to written arithmetic.

1. Because it is the logic of the common branches and strengthens the intellectual and reasoning faculties.

2. The same intellectual development cannot be attained by the process of subordination.

The mind loves truth better than error. No psychological fact is more universally recognized. Five hundred years before the Christian Era, the "Father of Chinese Philosophy" was directing the minds of his countrymen to that elevated position which would enable them to discern truth from error. In the land of Plato and Aristotle words of wisdom fell from lips almost inspired! A system of logic formed in that age of myths and dogmas has been transmitted to us through the mutations of time; and while nations have flourished but to decay, and generations of men, like crops of grass, have followed each other on the waves of time, the logic of Aristotle, when attuned by a Hamilton, inspires the world with homage and respect. Such a hold has it upon the public mind that our children are becoming *practical* logicians.

The science of thought is not accessible to all the children attending school, and perhaps will never be fully recognized in any public school system; but that all should be taught to reason closely and consecutively there is no question. How then can this be accomplished? Study mental arithmetic; it is the logic of the common branches. Any system of instruction that fails to recognize the power of the mind to acquire, to remember, to arrange, to classify, and to systematize the data furnished by experience and reflection, is not valid. Empirical facts furnish the data; reason asserts how these must be.

To think of one particular object of thought to the exclusion of all others, and to think consecutively, are the criteria of a disciplined mind, and no subject is so well calculated to produce these results as mental arithmetic. When mental arithmetic was first presented in a scientific form, many teachers embraced it as being the perfect embodiment of all knowledge worthy of attention in the school room. Reaction followed; mistakes were made and not rectified. Hence many, to avoid the mistakes of the past, rushed to the other extreme. In either case, the action was irrational.

Mental arithmetic must play its own part in the scheme of education. It gives power and does not diminish intellectual activity; it strengthens the memory, enlightens the judgment, corrects the understanding, gives increased power of mind so as to make the acquisition of other branches less difficult. The person well skilled in mental arithmetic is qualified to transact the ordinary business of life with accuracy and despatch.

In this respect it stands pre-eminent.

Lately an effort has been made to subordinate mental to written arithmetic. All over the country will be found some to pronounce it "a splendid success!" The test in the class room proves it a "ruinous failure." Already the more discerning are arguing it as a matter of expediency, not of real merit. Practice should precede theory, the concrete before the abtract; hence all competent teachers know that the most direct route through written arithmetic is by the way of mental.

Teachers favoring the *late* method pursue the following plan: exclude the mental as a text-book and and use the written only; assign the lesson in written request the exercise to be a combination of both.

This assumption must rest upon an ultimate basis, and that ultimate basis is the uniform method of procedure by which a knowledge of arithmetic is obtained. The child furnished with slate, pencil, and book, will first attempt to "cipher out" the solution. This being accomplished, the next effort will be to remember the so called "ciphered solution." Mental arithmetic, by this process, is degraded into a mere act of reproduction. Can this educate? Can it develop? Where is the thoughtful man ready to answer in the affirmative? I therefore protest against this subordination for the following reasons:

1. The subordination method is unsound, unphilosophical and irrational.

2. All arithmetical exercises should be, as far as possible, reduced to mental exercises.

3. All instruction in written arithmetic, except the mechanical part, should combine the mental and the written. All explanations, demonstrations, solutions, whether oral or written, should be mental in this: the chain of reasoning simple, connected, concise; the language pure, chaste, elegant.

4. Mental arithmetic, as such, at the proper time, should be pursued as an *independent study*.

Ultimate Results.—Those systems constructed upon the principle that no higher element exists in the human mind than that of reaching out through the sensuous and clasping whatever lies in the domain of sense perception, are partially correct. If the mind is a vast store-house, to be filled with all kinds of merchandise from earth, ocean and air, confusedly thrown over the field of conscious experience, then, indeed, does our boasted system of instruction degenerate into a heterogeneous mass of unclassified facts. The sponge absorbs moisture and remains a sponge; so may the child, sponge-like, deal with the "curse of details" until individuality is lost in confusion. Who moves the world, the man of facts, or the man of thoughts? The man who spends his life in ascertaining whether a bug has ten eyes or ten thousand, or the man who spends his life in moving the human mind to action?

Educators understand that all culture should be

symmetrical. Nature, in all her manifestations, teaches symmetry and proportion. One-sided culture denotes a one-idead workman. Only by harsh and cruel treatment, by one-sided culture, can deformity occur in the world of matter, in the world of mind. The languages, natural sciences and mathematics, require the severest logic. The naturalist, in his classifications in the animal, vegetable and mineral kingdoms, in all definitions of terms, must be logical. Precision of language, defining boundaries, excluding and including concepts, require the strictest accuracy. Arithmetic and algebra are instruments used, by the aid of which the sublimest themes of human thought are investigated. If the object of life and living is the acquisition of a few formulated rules to calculate the ordinary business transactions of life, then a smattering knowledge of arithemetic is all that is necessary. Without a thorough knowledge of arithmetic, algebra and geometry, the student can not pursue successfully the higher mathematics.

How prone we are to denounce what we do not understand! Even some are of the opinion that those who succeed well in mathematics must of necessity fail in other departments of science. To repel the charge so frequently made that mathematicians cannot learn other sciences, I will refer to some of those bright and shining lights that have from time to time illuminated the pages of history. The history of Archimedes, of Syracuse, is too familiar to all students of ancient history to require recital here.

Even the discoveries of Kepler were "secrets extorted from nature by the most laborious and profound research." In speaking of the book which contained his grand discovery, he said: "It will wait a century for a reader, as God has waited six thousand years for an observer."

History presents no discoveries more original than those of Kepler, and less dependent upon predecessors. Has genius ever transcended the discoveries of Kepler and Newton? As a divine and as a mathematician, who rises above the illustrious Isaac Barrow? His style, pure, chaste, vigorous, and expressive, even to the present has not been excelled in pulpit literature. The thin, pale boy, born on the little isle of the sea, shows a great aptness for mathematics while at the military school of Brienne. In a few years this child of genius and of destiny is the leading spirit of the age, flashing in splendor above the ancient dynasties of continental Europe. But if France gave a Bonaparte to revolutionize Europe, she also produced a Descartes whose discoveries in mental and moral philosophy exposed the absurd theories of scholasticism. As a result of these investigations we trace the idealistic theories of Germany, beginning with Wolf and Liebnitz and culminating in Kant and Hegel. While his discoveries changed the current theories of the age and permeated the regal and literary circles of England and France for more than a century, the Cartesian method of geometry revolutionized a science that had defied improvement for nearly two thousand years.

Why search the pages of history and canvass the lives of the active living of Europe and America?

Certainly it would be superfluous to make other references when mathematicians are found faithfully discharging all the duties of citizenship, upon the bench, in the pulpit, healing the sick, defining boundaries and settling disputes, building bridges and tunneling mountains, changing rivers, connecting seas, spanning continents, measuring to the stars in the trackless void, weighing worlds, contemplating the factors composing the universe—mind and matter—the essence thought, the substance, extent and form.

Yet some complain that we are too mathematical. Such never knew that the mathematician traces all the curves, and calls them all by name. If lines straight and curved, surfaces plane, warped, and twisted, occupy the attention of the artist, where save in mathematics can these be traced? Hence, in conclusion, it appears that arithmetic is the chief corner stone of the mathematical temple; that to be good mathematicians the study of mental arithmatic is indispensable; that the mind prefers truth to error, and the common branches require the logic of mental arithmetic; and lastly, it does not unfit persons for the duties of life.

EXAMINATION QUESTIONS.

THE following list of questions was used by Mr. Wm. H. Snyder, County Superintendent of Columbia county, at an examination held at Bloomsburg, June 4th:

GEOGRAPHY.

[One credit off for each misspelled word.]

1. Bound Columbia County.
2. State the population of Pennsylvania; area of square miles.
3. Name and locate the ten largest cities in the United States.
4. Bound Kentucky.
5. What states and territories are in the same latitude as Pennsylvania?
6. What states are crossed by the meridian of Washington?
7. When it is noon at Harrisburg, what time is it at a place 80° east of it? 90° west of it?
8. On what bodies of water would a vessel sail going from San Francisco to St. Petersburg?
9. How wide is each of the temperate zones?
10. Where and what height are Mt. Ararat? Mt. Everest? Mt. St. Elias?
11. What articles are exported from North America? South America? France?
12. On what bodies of water would a vessel sail circumnavigating Sumatra?
13. What states north of Brazil?
14. What three important rivers drain the slope from the Altai Mountains to the Arctic Ocean?
15. What three large lakes in Ethiopia?
16. What three mountain ranges would you cross going directly from Pittsburgh to Philadelphia?
17. Name the States that touch the Mississippi river.
18. Mention the two leading states in each of the following particulars: population; size; coal; lead; wool; iron.
19. Name ten of the largest counties in Pennsylvania.
20. How would you go by railroad from Bloomsburg to San Francisco, *via* Harrisburg?

GRAMMAR.

1. Write a sentence containing all the parts of speech.
2. Write a sentence containing the five elements.
3. Compare the following adjectives: worse, obe-

dient, green, better, holy, elevated, pleasant, feeble, less, bad.

4. Write a synopsis of the verb *walk* in all the modes.

5. What is conjugation? Declension?

6. Decline *it, I, we, you, them.*

7. Write the principal parts of the following verbs: wear, set, sit, drink, bring.

8. Write the possessive plural of *it, loaf, ox, thou* and *woman.*

9. Write a compound declarative sentence containing a regular intransitive verb, and a complex interrogative sentence containing an irregular transitive verb.

10. How is the possessive case of nouns generally formed, and illustrate by using the nouns *girl* and *woman.*

11. Analyze the following sentences, and parse the words in italics:

(*a*) *Being* a teacher and *seeming to be* a teacher *are* very different things.

(*b*) *They*, not *we*, are to blame for disobedience.

12. Correct the following and give the reasons for correcting:

(*a*) It makes no difference to you or I, to who we recite.

(*b*) James and I and Peter was in the village.

(*c*) "He done it very good."

HISTORY.

1. When, where, and by whom was Pennsylvania settled?

2. Name the original colonies in the order in which they ratified the constitution.

3. Name all the wars in which the United States has been engaged and the causes of each.

4. Give the names of the Presidents in their order, the length of time each served, the year each was elected, and by what party.

5. Who was Daniel Webster? Lafayette? Henry Clay? John C. Calhoun? Benedict Arnold?

6. What events occurred July 4th, 1826?

CONSTITUTION.

1. Repeat the "preamble."

2. What are the three branches of the United States government, and in whom is each branch vested?

3. What are the eligibilities of President? Senator? Representative?

4. State how a President of the United States is elected.

5. What officers constitute the President's Cabinet, and how are they chosen?

6. How can the Constitution be amended?

7. Mention the last amendment.

ARITHMETIC.

1. Add together $\frac{1}{4}$ of a mile, $\frac{3}{8}$ of a mile, $\frac{1}{8}$ of a furlong, $\frac{3}{4}$ of a furlong, and $\frac{1}{2}$ of a yard.

2. A thirty days' note for $1,000 was dated and discounted on the same day, 7½ per cent.; required the discount and proceeds.

3. How far will a man travel plowing a circular piece of land 45 rods in diameter, plowing a furrow nine inches wide?

4. What is the difference between the simple and compound interest of $350 in 4 years, at 9 per cent. per annum?

5. A town levies a tax for a school house, which costs $14,500; allowing 3½ per cent. for collecting, for what sum must the tax be levied?

6. A house lot is 80 feet front, and 10 rods rear; how much is it worth, at $680 per acre?

7. A stick of timber 42 feet long, 14 inches wide, and 11 inches thick; how many feet board measure does it contain? and how much is it worth at $16 per thousand?

8. Sold a farm for $19,500, and gained $1,500: what would have been the loss per cent. if I had sold it at $13,750?

9. Goods marked at 50 per cent. above cost, having depreciated in value, were sold at 45 per cent. off the price as marked; what per cent. was gained or lost?

10. What is the cube root of 14,172,488?

11. For what sum must a policy be taken out, to cover both property and premium, the value of the property being $2,760 and the rate of insurance 8 per cent?

12. Lightstreet is 3 miles north of Bloomsburg, and Espy 2½ miles east of the same point; what is the shortest distance from Lightstreet to Espy?

13. If 6 boarders eat $12½ worth of bread in 2 months, when flour is worth $9 per barrel, in how many months will 7 boarders eat $28 worth of bread, when flour is $12 per barrel?

14. Suppose you borrow from G. W. Gilbert $840 on the 14th of April, 1873, and agree to pay him 10½ per cent. interest per annum; write a promissory note for it.

15. What will be due on this note, June 4th, 1874?

READING.

1. What is reading?

2. What is force?

3. What is the difference between quality and quantity?

4. When does a direct question require the falling inflection?

5. When does an indirect question require the rising inflection?

6. What is accent? emphasis?

7. What is a letter? syllable? word? sentence?

8. What are tonics? sub-tonics? atonics?

9. What is an alphabetic equivalent?

10. What is pronunciation?

THEORY AND PRACTICE.

1. Do you read *The Pennsylvania School Journal?* If not, why not?

2. What would you do the first day school commences?

3. What is your plan for keeping your pupils at work while in school?

4. How would you teach reading? mental arithmetic?

5. What is the difference between teaching and keeping school?

6. Why should a teacher never make a remark reflecting upon a pupil out of school?

7. How do you prevent whispering in school?

8. What do you consider just punishment for disobedience? for truancy? for tardiness?

9. What are the advantages of the written method in teaching orthography?

10. Write an essay on the importance of having a clean school-room.

SCHOOL TIME.

DON'T you hear the scholars thrumming?
Bumble-bees in June!
All the leaves together thumbing,
Singers hunting for a tune?
Master mending pens, and humming
Bonnie Doon?

As he thinks, a perished maiden
Fords the brook of song,
Comes to him so heavy laden,
Stepping on the notes along,
Stands beside him, blessed maiden!
He has waited long!

Cherry ripe is the glowing stove,
Grammar class is inflecting "love,"
"I love—you love, and love we all."
Bounding states are the Humboldts small,
Chanting slow in common time
Broken China's rugged rhyme:
"Yang-tse-kiang—Ho-ang-ho—"
Heavenly rivers! how they flow!

Writing class with heads one way—
And tongues all out for a holiday!
Hark to the goose-quill's spattering grate,
Rasping like an awkward skate,
Swinging round in mighty B's,
Lazy X's and crazy Z's!
Here a scholar, looking solemn,
Blunders up a crooked column,—
Pisa's own Italic tower,
Done in slate in half an hour,
Figures piled in a mighty sum;
He wets a finger, and down they come!

Aproned urchin, aged five,
Youngest in the humming hive,
Standing by the Master's knee,
Calls the roll of A, B, C.
Frightened hair all blown about,
Buttered lips in half a pout,
Knuckle boring out an eye,
Saying "P" and thinking "pie,"
Feeling for a speckled bean,
'Twixt each breath a dumb ravine,
Like clock unwound, but going yet,
He slowly ticks the alphabet:
"A-ah—B-ah—C-ah—D,"
Finds the bean and calls for "G."

See that crevice in the floor--
Slender line from desk to door,
First meridian of the school—
Which all the scholars toe by rule.
Ranged along in rigid row,
Inky, golden, brown and tow,
Are heads of spellers high and low,
Like notes in music sweet as June,
Dotting off a dancing tune.

Boy of Bashan takes the lead,—
Roughly thatched his bullet head;—
At the foot an eight-year-old,
Stands with head of trembling gold;
Watch her when the word is missed!
Her eyes are like an amethyst,
Her fingers dove-tailed, lips apart;
She knows that very word by heart!
And swings like any pendulum,
Trembling lest it fail to come.
Runs the word along the line,
Like the running of a vine,
Blossoms out from lip to lip—
Till the girl in azure slip
Catches breath and spells the word,
Flits up the class like any bird,
Cheeks in bloom with honest blood,
And proudly stands where Bashan stood!

Evening reddens on the wall—
"Attention!" Now—"Obeisance all!"
The girls' short dresses touch the floor,
They drop their courtesies at the door;
The boys jerk bows with jack-knife springs,
And out of doors they all take wings!

Vanished all—all changed as death;
Life is not the counted breath.
The slanting sun low in the West,
Brings to the Master blessed rest.
See where it bridges afternoon,
And slopes the golden day-time down,
As if to him at last was given,
An easy grade to restful Heaven!
His hair is silver—not with light,
His heart is heavy—not with night.
Dying day the world has kissed,
Good-night, sweethearts! The school's dismissed!

Scribner.

ETHICAL OUTLINES—II.

WHAT IS THE MIND?

Sec. I. *It is the Reasoning Faculty.*

1. Do brutes reason?
2. Take the educated horse.
3. What distinguishes man from animals?
4. Is it merely in the *degree* of reasoning?
5. Is man but a highly educated brute?

Sec. II. *Or is Mind not the Utterance of Spirit?*

1. The thoughts of animals are impressions of examples.
2. They are the thoughts of man carried out.
3. Do brutes originate thought?
4. Human thought is creative.
5. There is purpose, judgment, planning and fulfillment.
6. Reason is the voice of the spirit, of the soul.

WHAT IS THE SOUL?

Sec. I. *Is it Merely Vitality or Being?*

1. Such is the life of plants or trees.
2. Also of animals.
3. But we differ from them.
4. Whence our powers of thought?
5. Whence our longings and hopes?
6. Whence the idea of a beyond?

Sec. II. *Is our Soul Merely Intellect?*

1. What advantage then over the tree or the brute?
2. Or is reason enthroned as God?
3. But whence comes our soul-feeling?
4. How get rid of this unknown tormentor?
5. Is anguish of spirit a myth?
6. Ask the mother by the grave of her first-born.
7. And shall we forget the present in the beyond?
8. *Can* we forget?

Sec. III. *Is the Soul not a Spark of Life from God?*

1. Our consciousness declares it.
2. Revelation unfolds the truth.
3. Analogy attests.
4. Only the over-wise attempt to deny.
5. The *denial* proves the higher life of man.
6. Attempting to prove that we are not from God, proves our origin to be divine.

J. G. HOMET.

WHAT IS THE OBJECT OF OUR TEACHING?

BY A. P. STONE.

WHO can estimate the amount of intellect and energy of soul wasted? It is, indeed, sad to think how many people, for the want of persistence of character and fixedness of purpose, fail to put forth the efforts necessary to make their lives effective and useful; but it is sadder still to contemplate the waste of power by those whose lives are not only active, but often toilsome, and yet who, being without a definite and worthy object in life, exhaust their strength and energies in misdirected and futile exertions, and then find, too late, that to themselves and to those whom they ought to influence life has been a failure indeed. There are few people who cannot recognize among their acquaintances many of whom the above is painfully true.

We have somewhere read a story which runs somewhat as follows: In a quiet country village of New England, some years since, dwelt a maid whose charms had so won upon the heart of a susceptible swain as to make an appeal to papa convenient and desirable. The youthful Jonathan repairs to the field with open knife and a broad shingle, the better to conceal his embarrassment, and there confronts the steady gaze of the intelligent farmer. His shingle grows less as his embarrassment increases, and only as the last shaving drops at his feet does the great question drop from his lips. The father, glancing at the shavings upon the ground, the knife that had made them, and at the anxious face of the youth, says quietly, but firmly: "If, with all your whittling, you had made so much as a little tooth-pick, you could have taken my daughter, but I cannot trust her with one who works so hard to make nothing." Here is a scene worthy a painter. Upon our side amusing, it may be ludicrous; upon the young man's side, of thrilling interest; upon the father's side, of rich instruction. The disappointed lover turns away with the bitter exclamation, "My whole life's destiny lay within that shingle and I knew it not. Oh! that I had known the capabilities of a shingle!"

Fellow teachers, how are we training *our pupils?* If their lives shall be aimless and useless, will the blame lie at our door? We spend much time in discussing which of the several school branches are most important to be taught, and the best methods of teaching them; but how often do we take counsel how to lead our pupils in the way that shall conduct them to useful lives? Do we keep it distinctly before their minds that all their efforts should be for a purpose, and that purpose a high and noble one? Alas, that we teachers spend so much of our time in the mere routine recitation work of the schoolroom! Our ambition is to make brilliant mathematicians, linguists, and adepts in the several branches of our course of study, more than to train children and youth to become useful men and women. Truth justifies us in asserting that the operations of our systems of instruction are unequal upon the powers of the child. Their policy aims more at the development of the intellect than of the heart. From the primary school to the college, our system of education points too much to the material wants of life. Children seem to be educated to be made shrewd and sharp, as though the chief end of man were to get money. They are crammed with information, instead of having their faculties disciplined, strengthened, and balanced. Precocity of intellect is too much sought for and cultivated on the hot-bed plan. Indeed the grand *defect* of our schools is, that while many things, excellent and necessary in their place, are taught with great emphasis, other things more needful are omitted and passed over so lightly as to throw into the shade their vast importance. We teach physiology, the science and laws of bodily health, which is most certainly a moral duty. But let the whole truth be told, that health, in its proper sense, pertains more to the soul than to the body. We also teach our children the science of *numbers*, than which nothing is more necessary for the business offices of life, or better calculated to develop the faculties of the mind. Nevertheless, the greatest of all sciences is, to learn so to *number* our days as to apply them unto wisdom.

Let us, then, point our pupils to the grand aims and objects of life. While we attend to the minor duties of our calling, according to their relative importance, let us show by our zeal and the loftiness of our purpose, that

> Life is real, life is earnest.

Let no day pass in which our bearing and our labors shall not impress upon our pupils the stern truth, that all their studies and all their training are to prepare them for their high mission in the world as well-cultured men and women.

Maine Journal of Education.

EDITORIAL DEPARTMENT.

THE SCHOOL JOURNAL.

LANCASTER, JULY, 1874.

J. P. WICKERSHAM. . . . . J. P. M'CASKEY.

THE STATE ASSOCIATION.

THE Twenty-first Annual Meeting of the Penna. State Teachers' Association will be held in the Cumberland Valley State Normal School building, Shippensburg, on the 11th, 12th and 13th days of August, 1874. As the meeting will be held near the centre of the State, we confidently anticipate a large attendance at Shippensburg, of Superintendents, teachers, and others interested in the work. The duty of preparing business for the meeting was entrusted to an energetic committee, from whom we have just received the following attractive programme:

PROGRAMME.

TUESDAY, AUGUST 11TH.

10 A. M.—*Opening Exercises of Association. Address of Welcome,* by Geo. P. Beard. *Reply*—James L. Harrison, Chairman of the Executive Committee. *Five minute addresses,* by prominent educators and friends of education. *Enrolment of members. Miscellaneous business.*

2 P. M.—*Inaugural Address*—George J. Luckey, A. M., Pittsburgh.

Educational Antiques—Edward Shippen, Esq., Philadelphia.

The Teacher an Interpreter—Rev. C. L. Ehrenfeld, Prin. South Western Normal College, California, Pa.

7:30 P. M.—*Co-Education of the Sexes*—T. Jefferson Duncan, A. M., Pittsburgh. Discussion of subject opened by Edward H. Magill, A. M., Prest. Swarthmore College, Swarthmore, Pa.

The Study of Geometry—Robert Curry, A. M., Deputy State Superintendent, Pittsburgh, Pa.

WEDNESDAY, AUGUST 12TH.

9 A. M.—*Vocal Culture in Our Public Schools*—J. W. Shoemaker, A. M., Philadelphia.

Relations of Natural Science to Popular Education—C. F. Himes, Ph. D., Dickinson College, Carlisle, Pa.

2 P. M.—*Technical Education*—George Woods, LL.D., Prest. Western University, Pittsburgh, Pa.

Local Supervision of Schools—B. F. Shaub, A. M., Lancaster, Pa.

Discussion, *Should the Law Establish State Uniformity in Text Books?* Affirmative—H. W. Fisher, Esq., Supt. of Schools, Bedford, Pa. Negative—Henry Houck, Esq., Deputy State Superintendent, Harrisburg, Pa.

7:30 A. M.—Address: "*Honor,*" Miss H. L. D. Potter, Boston, Mass.

The Money Value of Education—Rev. George P. Hays, Prest. Washington College, Washington, Pa.

THURSDAY, AUGUST 13TH.

9 A. M.—*The Importance of Literary Culture*—J. Willis Westlake, A. M., State Normal School, Millersville, Pa.

The Schools of the Future—Andrew Burtt, A. M., Pittsburgh, Pa.

The Wants of Our Schools—J. M. Bell, Esq., Kishacoquilla, Pa. Discussion of subject.

2. P. M.—*High Schools: Their Place in a System of Public Instruction and State Aid for Them*—M. N. Horton, A. M., Supt. of Schools, Williamsport, Pa.

Standard Qualifications of Teachers.—D. E. Kast, Esq., Supt. of Schools, Mechanicsburg, Pa. Discussion of subject.

7:30 P. M.—*Education under the New Constitution*—Hon. J. P. Wickersham, State Superintendent.

Short addresses by prominent educators.

FRIDAY, AUGUST 14TH.

Excursion and Social Reunion—In discretion of Association.

JAMES L. HARRISON,
Chairman Ex. Committee.

LOCAL ARRANGEMENTS.

Trains will stop at the School Building during this meeting. Trains from Harrisburg going south and west pass respectively at 9:45A. M, 4:00, 7:15 P. M. Trains to Harrisburg and the north and east at 5:30 and 9:45 A. M., and 5:45 P. M.

First-Class Board and Lodging in the School Building for four hundred or more guests.

Terms, $1.50 per day. Rooms should be ordered on or before Aug. 1. Address Geo. P. Beard, Shippensburg, Pa.

Messrs G. R. Dykeman, J. A. C. McCune, N. L. Dykeman, Wm. Mell, and John Grabill are the local Committee of Arrangements, and no effort will be spared to render the visit of teachers and others to Shippensburg both pleasant and profitable.

IN this number of *The Journal,* we present a good paper on the importance and necessity of the study of Mental Arithmetic. It was read before the Missouri State Association by Prof. J. M. Greenwood, of the State Normal School at Kirksville. This interesting paper from a devoted mathematician and teacher should be read by our own teachers, as it discusses a live educational issue.

THE Supreme Court of Massachusetts has decided that either the teacher or the parent has a right to correct a child for misconduct on his way to or from school. The case was that of a parent *vs.* a teacher, for assault on a child, who punished a boy for throwing stones at a teamster while on his way home from school. The court held that the

teacher's authority is absolute at school, that of the parent absolute at home, and between home and school both have jurisdiction. This decision is undoubtedly correct, but some difficulty might possibly arise from the joint authority possessed by teacher and parent. In practice it is best for teachers to deal with those offences only that involve more than one pupil or those that affect directly the discipline of the school, remanding to the parent all others.

CORRECTION.—In the article headed "Father of the School System," in our June number, we stated that "Mr. Burrowes gave Dr. Smith material aid in drawing up the school law," meaning the school law of 1836. This was the impression repeated conversations with Mr. Burrowes had left upon our mind. We have since learned, however, that no such aid was furnished Dr. Smith by Mr. Burrowes, or any one else; so that the conversations above alluded to must have had reference to school affairs subsequent to the passage of the act of 1836.

SUPT. D. B. BRUNNER, of Berks county, in an article on what teachers should do during the interval of school vacation, proffers some very sensible advice. There is nothing more natural for a teacher to do at the close of the term than lay aside his books and give himself up to pleasure. This is well enough where the teacher is entirely qualified, or does not intend to teach another term, but for those who make teaching a profession it is reprehensible. Study alone will win promotion and advancement, and it is discreditable to young teachers to be careless on the subject. Their aim should be to rise higher in their profession, and this can only be done by patient, constant study. A man or woman has little right to take a vacation unless nature demands it, and our youth should ask but brief relaxation from labor beyond the ordinary night's rest and Sunday abstinence from work. This may seem a radical theory and probably is, but it has made our great men and women, while the other plan has developed only acres of mediocrity.

SENATOR STEWART, of Nevada, has proposed an amendment to the Constitution as follows:

Article 16.—If any state shall fail to maintain a common school system under which all persons between the ages of five and eighteen years, not incapacitated for the same, shall receive, free of charge, such elementary education as Congress may prescribe, the Congress shall have power to establish therein such a system, and cause the same to be maintained at the expense of such state.

We doubt the policy of making any such amendment to the Constitution. The best that can be done now in the case of States failing to maintain common school systems is for Congress to grant them judicious aid until such time as they can act in the matter for themselves. There is no State in the Union that has not made an attempt to establish a system of common schools. A few have almost wholly failed, but only for the reason that they could not raise the necessary funds. Let the General Government help them to help themselves. This is the best policy in every aspect of the case.

A great mistake was made in not introducing an educational element into the reconstruction policy. No State should have been allowed to come back into the Union without a provision in its organic law for the education of all its children, white and black. This was essential. Its omission was a piece of blind statesmanship. But we cannot now wisely undo what has been done. The States are again a part of the nation. They have all the rights of States. The General Government cannot now consistently make them maintain a public school system, however valuable such a system may be, at their own expense, as Senator Stewart proposes. The only thing it can do is to grant them, as has been said, judicious aid.

THE following paragraph occurs in a recent address by President White of Cornell University:

Look at it for a moment. Of all men, none has stamped more ideas into the thinking of this generation than has John Stuart Mill; but among all his thoughts regarding education I remember none more pregnant and original than one regarding systems of public education. It is that, with all its benefits, such a system has one great danger, and that is its tendency to shape all minds by the same course of education into the same mould, thus preventing the fruitful collision and friction of mind with mind; thus bringing on a stagnant, barren sort of Chinese routine in thought.

There is truth in this observation, especially in the case of large, graded schools or systems of schools. Children are here taught in masses, not as individuals; and individual tastes, talents and peculiarities are overlooked or neglected in the effort to produce general results. The consequence is a tendency to sameness, leveling up and down

to a common standard, progress in line and with an even, well-timed step. The danger is one to be guarded against; and in view of it, is it well to insist that all our children shall use exactly the same books in school? Should we introduce a State uniformity of text books? Do we not want the special tastes and talents of our children cultivated? Does not variety here as well as elsewhere lend a charm to life? Would the work of the world be as well done if all men were more nearly alike? In our opinion, no greater wrong could be done the children of a State than to distort the nature God gave them by an effort to fashion them into one mould, after the same pattern.

WE take the following extracts from the recent report of the Committee on Education of the New York City Council of Political Reform upon compulsory education:

CRIME.

In France, from 1867 to 1869, one-half the inhabitants could neither read nor write; and this one-half furnished ninety-five per cent. of the persons arrested for crime, and eighty-seven per cent. of those convicted. In other words, an ignorant person, on an average, committed seven times the number of crimes that one not ignorant did.

In the six New England States of our country only seven per cent. of the inhabitants, above the age of ten years, can neither read nor write, yet eighty per cent. of the crime in those states is committed by this small minority: in other words, a person there without education cemmits fifty-three times as many crimes as one with education.

In New York and Pennsylvania an ignorant person commits on an average seven times the number of crimes that one who can read and write commits, and in the whole United States the illiterate person commits ten times the number of crimes that the educated one does.

PAUPERISM.

An examination of the statistics of England, Scotland, Ireland and of the other countries of Europe, indicate that, other things being equal, pauperism is in the inverse ratio of the education of the mass of the people; that is, as education increases, pauperism decreases, and as education decreases, pauperism increases. The same rule holds good in our country.

Taking the three states of Pennsylvania, Ohio and Illinois for illustration, we find that of the illiterate persons *one in ten is a pauper;* while of the rest of the population only *one in three hundred* is a pauper. In other words, a given number of persons suffered to grow up in ignorance furnish on the average *thirty times as many paupers* as the same persons would if required to get such an education as our free public schools afford. Add to this that they furnish also *ten times the number of criminals*, and the right as well as the duty of government, as the protector of society, to enforce general education is clear, for it is the plain obligation of the government to protect society against pauperism and crime.

IMPORTANCE OF MORAL EDUCATION.—"If a parent teach a child that intelligence and learning are the only weapons to fight the battle of life, and that morals are merely a collateral circumstance of easy acquirement in the future, so easily obtained indeed, that they can be 'picked off any bush' when wanted, just so long will public morals be bankrupt, notwithstanding the boasted merit of our public school system."

This excellent comment by a school director in the April Number of the *Journal*, on the importance of a just appreciation of the neglect of moral teaching on the part of parents, revives an incident that occurred in one of the Philadelphia schools, a few years since. A lady who had a son perhaps nine or ten years of age attending one of these schools paid a visit to the teacher, as she was wont, to ascertain what his progress in learning had been, and what moral character he had sustained among his school fellows. The lady who had him in charge gave very frankly a full report of his scholastic progress and acquirements, from which it appeared that he had made a very good average in his classes, but had not been distinguished for progress. His mother next questioned the teacher respecting his behavior, in and about the school-room. From the report it appeared that his conduct had been faultless, and that he had always manifested the character of a *good boy*. The teacher thinking, however, that she had scarcely done him full justice, added with emphasis, "*but your son is a very truthful boy.*"

Not long afterwards, I had an opportunity of hearing the particulars of this visit from the mother, and I told her that much as I valued high literary attainments, and evidence of progress therein, I placed a higher estimate on this simple testimony, than if his teacher had given a most brilliant report of his learning! I also took an early opportunity with the son, to whom I expressed a similar sentiment, being fully aware from the known capacity of the child, that there was no reason to apprehend discouragement. Frequent circumstances in future affording opportunities of watching the moral development of this child, I discovered that his strict adherence to truth in subsequent periods became a prevailing trait that was strongly marked ih all his intercourse with his adult relatives. On occasions of business of all kinds in which he was concerned, particularly on errands, there never could be any mistake about the efficiency of the work done, or his report given concerning it.

On the last school vacation that he ever took, he accompanied his uncle and mother to see some of the grand natural curiosities in northwestern New York. On preparing to return, the company had just taken their meals and hastened to a seat in the car, when the little boy discovered that he had, by mistake, carried off a table napkin. Immediately on seeing it, he was so much distressed at the idea that he should be suspected of taking what was not his own, that he could not be satisfied until the napkin was restored to its proper place, though his uncle knew that leaving the cars for the purpose might, at that juncture, be attended with serious risk and inconvenience, but it was done and the child's wish gratified.

W. H. J.

Newtown, Pa.

THE Board of Visitors of the Michigan University say that female students are fully equal to the male students in all their studies. The experience of other leading schools, where co-education of the sexes is the rule, agrees in the main with that of the University just named.

CHEAP TEXT-BOOKS.

ABOUT the only argument of any weight advanced in favor of the text-book bill recently defeated in the House of Representatives was that it would lessen the price of the books used by the pupils in our schools. Some pitiful stories were told of the burden it had become for poor people to buy books for their children. A certain widow was spoken of, or invented, whose whole earnings were spent in this way. And there may be some truth in what was said concerning the high price of books. We have heard men complain of having to buy a twenty-five cent spelling-book for a boy at school which would last him for months, while they were themselves accustomed to spend five or ten times as much in a single week for tobacco, liquor, oysters, ice-cream and confections; but the sellers of books may charge too much for them, and if so we are in favor of any feasible plan that will reduce the price. Would the text-book bill be likely to accomplish this end? We are far from thinking so, and propose to give reasons for our opinion.

The principal supporters of the text-book bill, those who stood far back and worked the wires in its favor, were bent on money making. They are not known in any way as friends of public education, but they had ascertained that some two millions of dollars are expended in Pennsylvania for text-books every year, and they naturally thought that if they could secure a monopoly of this fine market their fortunes and those of their friends were made. A great monopoly of the whole school-book trade was to be created in the interest of a few; and we submit whether, this end accomplished, books would be likely to be cheap. All history shows that the tendency of monopolies is to increase, not to diminish prices.

But it will be said that the bill itself provides for furnishing text-books at reduced rates. Let us see. As originally prepared the bill provided for nothing of the kind. Some amendments with this end in view were forced upon it in the Senate; but their effect was nullified by others proposed by its friends in the House. *The intention was to allow the price of the books to be fixed by the commission*, a circumstance that did not look much like reduction. The following proviso continued in the bill in all its stages:

> *Provided*, That, in the event of non-purchase of copyright as aforesaid, it shall be unlawful for the publishers or others to charge a greater sum per book than that set forth to the commission previous to the completion of the series, without first obtaining the consent of the commission aforesaid thereto.

That is, a book publisher could offer his books at a low price until adopted, and then, with the consent of the commission, advance it as suited him! Is any one so blind that this is dark to him?

The Senate amendment looks fair:

> That no such purchase shall be made, nor shall any uniform series of text books go into use in said schools, unless the retail prices thereof shall be at least fifty per centum less than the present retail price of school books of the same size, character and description now in use in the schools of the State.

The weakness in it is that no provision is made for transporting the books to the different districts and retailing them. Those who might publish the books would not undertake to do this at a reduction of fifty per centum less than the present retail prices. Practically, therefore, "retail" prices would mean *wholesale* prices, or at least prices at the place of publication, as no other would be under the control of the commission. But all doubt is taken away when this amendment comes to be amended in the House. There it is provided that the reduced "retail" prices are limited "to school boards who are authorized to contract for the same," and the "fifty" per centum is made *forty* per centum. Stript of all verbiage this simply means that the books agreed upon by the commission shall be sold to school boards at forty per centum less than present retail prices. Thirty-three and one-third per cent. is, we believe, the trade reduction that is now made by all the leading book publishers. Any board of directors that chooses to do so can at once obtain a supply of books for the schools of their district at the reduced price named, and where the stock of books purchased might be large, we have no doubt that the reduction of "forty per cent.," named in the bill, would be allowed by the wholesale dealer. The passage of such a bill would, therefore, save the people little or nothing in the price of text books; but on the contrary, in all probability, after the manner of monopolies, it would increase the price to be paid for them, or at least furnish them inferior in mechanical execution. Thus is answered the only argument of any account adduced in favor of the bill in question. The whole thing was a huge job that the people should stamp in every possible way with the seal of their disapprobation.

In all this we have taken no account of the fact that had the bill passed as amended

in the House, text-books in all the schools throughout the state would have been at once displaced by those agreed upon by the commission. The books that would have been adopted by the commission, and this is a matter quite well understood, are probably not now in use in *one-twentieth* of our schools. Nineteen-twentieths of all the books in use, therefore, amounting in value to *four or five millions* of dollars, would have been rendered worthless at a single blow. It cannot be that the good men in the two Houses who voted for this bill understood the magnitude of the interests involved in it or took time to think what they were doing.

ANOTHER NORMAL SCHOOL.

PLANTED ON THE MONONGAHELA RIVER.

ELSEWHERE in the proper department will be found the official proceedings attending the recognition of a new State Normal School, located at California, on the banks of the Monongahela, in the county of Washington. The first steps looking towards the establishment of a Normal School at this point were taken some ten years ago, but the progress made was very slow; not owing to want of heart, but to want of means. The struggle was a long and hard one, but at the end it was crowned with a fitting triumph. Never before have we seen a people feel more interest in such a work, and evince a more heartfelt satisfaction at the successful result. The public meeting held in the chapel of the school on the afternoon of the day on which the inspection took place seemed to be attended by the whole community. The people gathered to it from all the surrounding country, and never were speeches listened to with more attention. A burst of genuine enthusiasm shook the hall when the conclusion of the committee of inspection was announced, and the congratulatory addresses which followed were all answered with hearty applause. It was a glad day for the people who had worked, waited and hoped so long. The school will now, without doubt, enter upon a career of prosperity that will place it alongside of the older institutions of the kind that exist in different parts of the State. Below we give a brief history and description of it.

HISTORIC SKETCH.

The buildings of this Institution at present are two, a central one and a dormitory. They stand about the centre of ten acres of ground which fronts on the Monongahela river. The central building has the general form of a cross, the front being 146 feet long, and the central extension 110 feet deep. The breadth of the wings and nave averages about 50 feet. On the angles of the front projections are two massive towers rising to the height of 85 feet. The stories are respectively 15, 14 and 13½ feet high. On the first floor are the Lecture Hall and Model School room, each about 50 feet square. Besides, there are in the different stories many spacious rooms for library, laboratories, music and recitation rooms, etc. On the second floor is the chapel, approached by two elegant staircases. This is a grand room, 110 feet long, 44 wide and 22 high. It is beautifully frescoed and the windows are of figured, enameled, ground and colored glass. The dormitory is 103 feet deep. The front part, running back 28 feet is arranged for a dwelling, and is 44 feet wide; the remainder is 38 feet in width. It is three stories high above the basement. The basement extends under 75 feet of it and is used for dining hall and kitchen. It is a fine room for the purpose. This dormitory is occupied only by the young women. The Board of Trustees has decided and has taken the preliminary steps, to erect the other dormitory this summer, so that the entire central building may be free for school work.

This institution was founded in 1865, and was chartered for the purposes of a State Normal School. But it was preceded by an academy, in which the present school had its origin. The academy was founded and the building erected for it in 1852. It opened under the principalship of E. N. Johnson, whose successful administration is spoken of to this day. Under him and his successors a large number of the leading citizens of this region had their training. But the influence of no school can be measured merely by the number of students it may have educated. Unseen radiations from it brighten the faces of the people all around it; and hidden forces play outward and lift a community into a higher plane of thought and life. It was so here. When therefore the Normal School law had been passed and the institution at Millersville became known and normal schools were talked of, the people in and around the village of California were ready to appreciate the benefits of such an institution. At this time Prof. J. C. Gilchrist had charge of the academy.

Whether or not he was the first who conceived the idea of establishing the State Normal School, it is well known that he got the work into motion, raised money and gave the effort life. Here also must be named Job Johnson, deceased, for the important part he bore in the work. As soon as the charter of the Normal College had been obtained the academy passed under the new name, and thus the institution which was born of the old academy turned about and swallowed its parent. And thus it was, that, while the state normal schools generally have waited until recognition before beginning operations, this one by the force of circumstances, went into operation simultaneously with the date of its charter. This involved the school in heavier liabilities without the facilities to meet them, but it did a work of unspeakable importance for the teachers and schools in this part of the state.

When all the money that could be raised in the vicinity for the erection of the buildings had been secured, it was found impossible to succeed without early help from the state. Such help, to the amount of 15,000 dollars, was obtained in 1869, and was the first step in a change of policy towards unrecognized

schools. With this the work on the central building was completed sufficiently for ordinary school work in the spring of 1870, and accordingly a transfer was made from the old academy into the new house. In the same year Prof. Gilchrist resigned and left the school without a principal, Prof Hertzog being in charge of it meanwhile till in the summer of 1871, when the present principal, C. L. Ehrenfeld, A. M., was chosen and accepted the place. Soon after his arrival various efforts were made to start the work anew, but all plans failed. It was probably not in the possibility of any plan to succeed at that time. The people in the neighborhood felt exhausted, throughout the district they were indifferent, the available funds were expended, the work had stopped, and a heavy debt overhung the property. The summer was past and winter was at hand in two senses, both in nature around and in the affairs of the school. It seemed clear at last that the only direction to look for relief was again to the state; and this, in view of the extraordinary requirements made by the normal school law, it seemed right to do. Impressed with these convictions the principal went to Harrisburg to lay the facts before the Department, and to seek such a combination of the friends of the normal schools in the legislature as to secure the necessary aid, under the conviction that the condition of this school was not without parallel in at least some of the other schools, and that an appropriation to this one would "break the ice" and open the way into a larger liberality on the part of the state toward them all. Thus the special appropriation would, in due time secure all the results of a general bill, while the passage of a general bill at that time was not to be hoped for. The result in particular and in general is known. It is sufficient for this sketch to say that 10,000 dollars were appropriated to this school. The bulk of this sum, after meeting a few pressing debts, was devoted to the erection of the present dormitory. This was begun in the summer of 1872, but as it cost some 16,000 dollars, much additional money was needed. In the spring of 1873, the passage of an act supplementary to the charter was secured, and upon it and a previous act passed in 1868, the institution issued mortgage bonds, of which 15,000 dollars were taken. With these resources the buildings were carried to such a point of completeness as to secure recognition by the unanimous verdict of the committee of inspection. The trials endured and sacrifices made through all these years, by a few, to secure this consummation, cannot here be written; but the cause is worthy of them all. We must not fail to name John N. Dixon, the president of the Board of Trustees, who, like Robert Morris in the Revolution, opened his own purse when the treasury of the College failed. Many other names are on the roll of honor. The persistent spirit of the principal, who took hold in its most critical period and who strove through all, to secure a result both honorable to the community and just and honorable to the Commonwealth, will not be forgotten.

The charter provided that "the corporate name and title of this institution should be The South Western Normal College of Pennsylvania, until the time it might be recognized as a state normal school, when it could take such name and title as might be consistent with the provisions of that act;" but as recognition had so long been delayed and the school had come to be widely known under the first name, and the mortgage bonds were made out in it, the Board deemed it best to make no change.

The School-Room.

THE following is a brief description of a Bucks county school-room. We take it from the *Newtown Enterprise:*

Mr. Editor:—In company with a School Director of this township, (Bristol,) I recently visited one of our school houses, located on the banks of our beautiful Mill Creek, just above where it ceases to have a current, and becomes stagnant and lily-bearing in the Bristol dam. Where the stream takes a turn to the East, on its high southern bank, stands a plain unassuming school-house named "Laurel Bend." Here Miss Anna R. Bailey teaches. She is a model teacher, and has a model school. When we arrived the school had been dismissed, but there was nothing to show that a crowd of rough boys with dirty boots had just left it. All was clean as a parlor, even the doorstep was as guiltless of dirt as that of a model housewife. No dirt on floor, no dirt on desks, and everything in its place. It is a curiosity shop. For years the teacher aided by the scholars has been collecting articles of beauty and use, and they are stowed away wherever there is room for anything. Pictures, adorn the walls; not expensive pictures, not gaudy ones, and not one here and there, but all over: chromos, copper-plates and wood engravings; choice plates from the *Graphic*, from the *Aldine*, from everything. Here are maps and charts, and curiosities; hanging shelves filled with books; samples of our American woods, samples of minerals, of grains, of spices from far-away lands, and growing plants and flowers. And then, stowed away in the teacher's desk is a miniature medicine chest, in case a scholar should get sick. There are scrap-books, part full of pictures, to amuse the little children, and fifty things I do not now recollect. I have often visited country school houses, but this was a surprise to me, so different from most, so home-like. An idea struck me, then and there, that here is a lady devoting her time to the work—devoting her life to teaching—and getting less wages than young, beardless boys without experience, and perhaps without natural ability; and when I arrived home I put my thoughts on paper, and forward them to the printer. K.

JOHNNY LEARNS SOMETHING THAT HE CANNOT SEE.

THE following is such an admirable specimen of an object lesson that we insert it as a model for those who wish to do something with lessons in objects in their schools.

Johnny is a seeker; and like every other little boy who keeps his wits about him and watches things, he is continually making his discoveries—the best of all ways for getting knowledge.

The other morning he found on my table a small piece of painted steel, shaped like the capital U, only there was a short bar of iron across the top which made it look like a flattened D.

"What a funny little horseshoe!" said Johnny, picking it up. "Why didn't they put some holes in for the nails?"

"That isn't a horseshoe," said I. "It's a magnet."

"Magnet! What's that?"

As Johnny asked the question, he turned the thing over in his hands, and pulled the bar a little to see

how it was fastened on. The bar slipped and when he tried to pull it back into place, one end came off, so that the bar hung only by a corner

"Never mind," I said, as he looked up with a scared expression that plainly said, "I didn't mean to break it."

"It isn't broken. Put the bar back."

Johnny put it back, and it sprang into place with a sharp click.

"That's funny," he cried again. "What made it jump so? And what makes it stick? It doesn't feel sticky."

"We call it magnetism," I said. "Now take hold of the bar, and see if you can pull it straight off."

"I can't. It sticks fast."

"Pull harder."

Johnny braced himself for a strong pull. Suddenly the bar came off and the little fellow went tumbling backward into the middle of the room."

"Well, I never!" he cried good naturedly, picking himself up. "What did you say makes it hold so hard?"

"Magnetism," I said again.

"But what *is* magnetism?"

"I couldn't tell you if I tried; but I think you could learn a good deal about it with that magnet."

"Could I? Let me try"

That is one of Johnny's ways of amusing himself. He likes to find out things for himself, as well as most boys like to work at puzzles."

"You will find a lot of things in that box of odds and ends that may help you"

Saying this I went about my business, leaving the young Faraday to pursue his studies as best he might.

When I came home in the evening I found him more puzzled than I left him.

"That's the queerest thing I ever saw," he said. "Some things just jump at it as though they were alive; some things it pulls, and sometimes you can lift a whole string of things with it, holding on to each other just like a swarm of bees; and some things it doesn't pull a bit"

"That's a very long lesson you've learned," I said "What things does it pull?"

"These," he said, pointing to a pile of things on one side of the box. "And these other things it doesn't pull."

"Let us see what you have in this pile," I said, looking at the first little heap. "Keys?"

"Trunk keys," said Johnny. It doesn't pull door keys. I tried ever so many."

"Try this key," said I, taking one from my pocket. "This is a trunk key. See if the magnet pulls it."

"No-o," said Johnny, thoughtfully, "it doesn't; but it pulled all the rest of the trunk keys I could find."

"Now try this key to the door of my office."

Johnny tried it, and to his great amazement, the key stuck fast to the magnet.

"Clearly," said I, "the magnet pulls *some* door keys and fails to pull some trunk keys."

Johnny was puzzled more than ever. He looked at one pile of keys, then at the other, thought a moment, then picked up my trunk key, and said, "This key is *brass*. The rest are iron."

"That's so," I said.

"And all these door keys that the magnet didn't pull," he continued, "are brass too. May be the magnet can't pull brass things."

"Suppose you try. But first see if there are any brass things in your pile of things the magnet pulled."

Johnny looked them over and found not one. In the other pile he found a brass nail, some brass pins, a hinge, and several other articles made of brass, none of which the magnet would pull. Then we tried the castors of my chair, and all the other brass things we could find, with the same result.

"There's no use trying any more," said Johnny at last. "The magnet won't pull brass."

"Then there's another matter settled," I said. "*The magnet does not pull brass.* Is there anything else that it does not pull?"

"Wood," said Johnny. "I tried lots of pieces."

"Anything else?"

"Stones," said Johnny, decidedly

"What are these?" I asked, holding up a couple of heavy stones he had put among the things the magnet pulled.

"I guess I put those there by mistake," said Johnny, testing with the magnet a number of stones in the other pile.

"Try them," I said.

"Oh!" he said, as the magnet lifted them. "I forgot. It does lift *some* stones."

"Well, what else have you in that pile of things the magnet does not pull?"

"Glass, leather, lead, bone, cloth, tin, zinc, corn, and a lot of things."

"Very well. Now let us see what the magnet does pull."

"Iron keys," said Johnny, "and nails."

"Here's a nail in this pile."

"That's a brass nail. The magnet only pulls iron nails."

"Is this an iron nail?" I asked, taking a small white nail from the first pile.

"No; that's tin, I guess, or zinc. It oughtn't to be in that pile."

"Why not?"

"Because the magnet does not pull tin or zinc."

"See," he added, touching first a bit of tin foil, then a piece of sheet zinc, with the magnet.

"I handed him the white nail, and said. "Try this."

That is queer!" he said, as the nail sprang to meet the magnet.

"Try this strip of tin."

"Oh that isn't tin; it is just tinned iron. You showed me that the other day. That'll stick."

"May be the nail is only covered with tin, and is iron inside. *Is* it?" he concluded, eagerly, as I broke the nail in two to look at its interior.

"I think it is," I said. Try it with the magnet, and then try this white shoe-nail that is white clear through."

The shoe-nail did not stick; the other did, and we classed them accordingly.

"What else have we in this pile?"

"Needles, hair-pins, screws, wire—*iron* wire," Johnny added quickly. "Brass wire doesn't stick, you know."

"How about this?" I asked, taking a small coil of red wire from my desk."

"I guess that won't stick," said Johnny.

"Why so?"

"Because that's copper wire, and the magnet doesn't seem to pull anything that isn't iron."

"There may be things besides iron that the magnet will pull, and there may be times when the magnet will not pull iron; but so far as we have tried it, the magnet pulls iron always, and never anything else."

"But you haven't told me what makes it pull iron."

"That I cannot do any more than you. We see that it does pull, and can study generally the manner of pulling—it will take you a long time to learn all about that; but just how it is that the pulling is done, or what makes it, no one has yet found out. For convenience, we called the pulling power *magnetism*. You can keep the magnet, and study its action further. When you've tried it in every way you can think of, come to me, and I'll show you ever so many curious things you can do with it."

—*Christian Union.*

A SPELLING PUZZLE.—The Newark *Advertiser* says: "To people who pride themselves upon their aptness at spelling, we recommend the following test which has been compiled in leisure moments by a gentleman in this city merely as a literary curiosity. It is cleverly arranged with a view to presenting as many difficult words in as small a space as possible, and there are probably few even of the 'gifted' spellers who can write the whole from dictation without making some blunders."

The most skillful gauger I ever knew was a maligned cobbler, armed with a poniard, who drove a peddler's wagon, using a mullein-stalk as an instrument of coercion, to tyrannize over his pony shod with calks. He was a Galilean Sadducee, and he had a phthisicky catarrh, diphtheria and the bilious intermittent erysipelas. A certain Sibyl, with the sobriquet of "Gypsy," went into ecstacies of cachinnation at seeing him measure a bushel of peas, and separate saccharine tomatoes from a heap of peeled potatoes, without dyeing or singeing the ignitible queue which he wore, or becoming paralyzed with a hemorrhage. Lifting her eyes to the ceiling of the cupola of the capitol to conceal her unparalleled embarrassment, making a rough courtesy, and not harassing him with mystifying. rarefying and stupefying innuendoes, she gave him a couch, a bouquet of lilies, mignonette and fuchsias, a treatise on mnemonics, a copy of the Apocrypha in hieroglyphics, daguerreotypes of Mendelssohn and Kosciusko, a kaleidoscope, a dram-phial of ipecacuanha, a teaspoonful of naphtha, for deleble purposes, a ferrule, a clarionet, some licorice, a surcingle, a carnelian of symmetrical proportions, a chronometer with a movable balance-wheel, a box of dominoes and a catechism. The gauger, who was also a trafficking rectifier and a parishioner of mine, preferring a woolen surtout (his choice was referable to a vacillating, occasionally-occurring idiosyncrasy), wofully uttered this apothegm: "Life is checkered; but schism, apostasy, heresy and villainy shall be punished." The Sibyl apologizingly answered: "There is a ratable and allegeable difference between a conferrable ellipsis and a trisyllabic diæresis." We replied in trochees, not impugning her suspicion.

THE MONTH.

THERE was a common school picnic near Unionville, Chester county, on Saturday, June 6th. It was a delightful affair. Several hundred children from the public schools of East Marlborough and adjoining townships, with teachers, directors and citizens, assembled in a beautiful grove where a stand for the speakers and seats for the audience had been provided. Some exercises by the children took place in the forenoon. Dinner was served in a school house near by, at noon, and in the afternoon addresses were delivered by County Superintendent Peirce, Prof. Maris, Principal of the Normal School, Messrs. Perdu and Hayes of the West Chester bar, and Mr. Wickersham, Superintendent of Common Schools. The picnic was projected by the intelligent board of directors of East Marlborough township, who well deserve the many compliments paid them during the day. It is significant, perhaps, that *two of its members are ladies.*

COMMON-SCHOOL PICNIC AT YORK.

THE scholars of the public schools of York were allowed the privilege of having a picnic on Thursday, May 28th; and it is said that nothing equal to it had been witnessed in that borough before. The place selected was a grove about two miles south of the town, and to it the children marched from their different schools in line a mile or more in length. Each school had its appropriate banner, with its name and class inscribed on it. The teachers occupied a position in front of their respective classes and the entire procession was divided into sections, which were placed under the direction of marshals appointed for that purpose. The borough police headed the column and the music was furnished by the Citizens' Band and the Spring Garden Band.

Upon reaching the centre of the grove the children were drawn up in front of a large stand which had been erected for the accommodation of the speakers. Here they were appropriately addressed by Daniel Kaber, Esq, one of the oldest and most respected school directors of the borough. This was followed by singing by the children, led by Prof. Gipe. Then refreshments were in order, and the good things, prepared at home and brought along, disappeared as if by magic.

The *True American* whose account of the affair we have abridged, concludes its article as follows:

"About one o'clock, Gov. John F. Hartranft arrived on the ground and was escorted to the stand, where he was received with applause and made a few remarks, stating, among other things, that he would address them at length at a later hour in the afternoon. A huge tent had been erected by the committee, under the ample folds of which a handsome dinner was served to the Governor, the clergy, the members of the School Board, the officers of the day and the members of the two bands of music and a number of invited friends. This dinner was gotten up under the supervision of Rev. J. W. Buckingham and was everything that could be desired, both as to quantity and quality. At two o'clock the trumpet sounded and the crowd gathered around the stand to hear addresses from the Governor and others that might follow him. The Governor's address was brief, practical and to the point. He favors every proper method for the education of the youth of the Commonwealth, and declares that while he retains the position he holds, every legitimate measure for that purpose shall meet his unqualified approbation. He was followed by the Rev. Wm. H. Rice and the Rev. J. O. Miller, in a few remarks, when the crowd dispersed through the woods and resumed their exercises and amusements, which were kept up until after five o'clock in the evening, when the procession again formed for home, which all reached in safety. The day was happily spent, and will be long remem-

bered by those who participated in its amusements and enjoyments.

THREE DAYS IN THE IRON CITY.

ON Wednesday, the 27th of May, and the two succeeding days we paid a long-promised visit to the schools of Pittsburgh and Allegheny. The weather was very pleasant, the school officers who accompanied us and the citizens whom we met were exceedingly kind and hospitable, invitations to visit came to us from numerous individuals and public institutions, the schools were generally in excellent condition, the children seemed well dressed, bright and happy, so that we have seldom crowded so much real enjoyment into the same space of time. The whole scene, city, procession of carriages, school buildings, rooms and halls full of children, groups of earnest teachers and interested directors and citizens, now pass before the imagination like a great panorama. As the memory never dies the picture will last forever. Many, many thanks to our Iron City friends. For the details which follow, except a few interjected comments, we are indebted to the newspapers, mainly the *Commercial* and the *Dispatch:*

PITTSBURGH.

An official visit to, and inspection of some of our city public schools was made yesterday by some of our prominent school officials and a number of directors and educators, and a most agreeable time was had. The party left the rooms of the Central Board of Education at 9 o'clock in the morning, consisting as follows: Dr. J. P. Wickersham, Robert Curry, Deputy Supt.; Supts. A. T. Douthett, Geo. J. Luckey and John Davis; J. H. Nobbs, President Central Board; Messrs. John Wilson, M. W. Rankin, Samuel Harper, S. H. French, T. J Craig, Charles Evans, Joseph Mitchell and C. A. Kehew, members of Central Board; Prof. T. H. Douglas, R. F. Wilson, Andrew Burtt, H. O. Gibbons and T. Jeff. Duncan, principals, and Messrs. J. J. Seibeneçk, of the *Chronicle*, and Eugene M. O'Neil, of the *Dispatch*.

The first schools visited were those in the Ralston district, where Prof. Burtt has for some twenty-two years been principal. The building is located on the corner of Penn Avenue and Fifteenth street, and was erected or first opened in 1861. A few minutes were spent by the party in each of the twelve rooms, and the progress of the scholars in each department was shown by examination and drill, by the teacher. The clear and distinct utterance by the scholars in reading was noticeable, showing culture of the voice, while their proficiency in penmanship and rapid advance in drawing were much approved.

The Springfield schools in the Twelfth ward, Prof. Logan, Principal, were next visited. This is a new building elegantly furnished and handsomely arranged with all modern improvements. It is located on Smallman street near Twenty-ninth street. A specialty in this school is the study of calisthenics, in which Mr. Logan takes much interest, and, we are free to say, to the benefit of his scholars and the good order and discipline of his school.

The Lawrence building, which is believed to be the neatest and best arranged in its plan of any school building in the city, is located on the corner of Thirty-seventh and Charlotte streets, Fifteenth ward. Prof. Gibbons, the Principal, among other things, is credited with being very successful in the matter of discipline. The location of the building is very pleasant, being near the Allegheny river, next to the beautiful United States arsenal grounds, and surrounded with trees. The rooms are all handsomely fitted up, and a pleasing sight are the pictures upon the walls, and hanging baskets in the windows.

The Washington schools located on Fortieth street, are presided over by Mr. T. Jeff Duncan. Here as elsewhere neatness and order were noticeable, and the visitors entered various rooms, engaged in hearing scholars recite, examining specimens of their drawing upon the blackboards and their penmanship. Soon after the arrival of the party the dinner hour came and they were invited to the hall of the building where the ladies had prepared an elegant repast. To this ample justice was done. Feeling then in the best of spirits, speeches were made, in response to appropriate toasts, by Messrs. Wickersham, Burtt, Harper, Watkins, Craig, O'Neill and others. All expressed gratification with what they had seen on the visit, and returned thanks to the principal and his lady assistants for their hospitality. The occasion was a very pleasant one.

After bidding adieu to the teachers of the Washington schools, the party wended their way to those of the Hiland district, East Liberty, Professor Fulton principal. Here they found, besides the teachers and scholars, a number of the directors and citizens awaiting them. The visitors gathered in the hall of the building, and all the pupils were marched into their presence. Short addresses were then made to the scholars, by Mr. Wickersham, Father Ferris, a Catholic clergyman, Prof. Curry, Mr. Harper, Rev. Vernon, and Rev. Herr, Rev. Holland and Superintendents Douthett and Luckey. The visitors were treated to ice cream, cake and lemonade, for which a vote of thanks to the lady teachers was passed.

The Bellefield schools, Fourteenth ward, had been promised; the party hurried thither, and were welcomed by Prof. Wilson, the principal. It was found that the pupils were still awaiting the visitors, although it was long past the hour of dismissal. The party visited each of the four rooms, and in each Prof. Wickersham was introduced to the pupils and they were addressed by him briefly. In one of the rooms a little girl presented the superintendent with a handsome bouquet. This school building is one of the neatest in the city, the rooms being light and airy, and the whole arrangement and furniture all that could be desired. The children looked their prettiest, and the visitors were much pleased with them. The party returned to the city about five o'clock in the evening.

HIGH SCHOOL.—Thursday morning was spent in visiting the Pittsburgh High School. The building is the finest common school structure in the State, and all its appointments, as a place of instruction, are very complete. It has quite a large, well-selected and well-arranged library and apparatus, much of it imported especially for the school, worth probably $10,000. Its commercial department is organized on the plan of the best business colleges in the country,

and its facilities for imparting general technical instruction are probably unsurpassed by any institution in the State. The students in the Normal Department are well trained *academically;* we did not observe much strictly *professional* work. The inspection of the several rooms and departments continued for some hours, when the school was assembled in the chapel and Dr. Jillson introduced to the students the State Superintendent, Dr. J. P. Wickersham.

After apologizing for not having visited the school before, as he had several times promised to do, he said he had come upon them this morning unexpectedly, and that his visit had given him great gratification. He was pleased with all he had seen—the Commercial department, Scientific department, Drawing department, the teaching—everything. He had no idea that the institution, so young, had been so amply supplied with apparatus and other facilities. It is a noble institution—an institution I believe the city is proud of, or should be proud of. He then referred to its early history, and the opposition it had encountered, the difficulties, overcome, its present triumph, and said, "I am free to say that it is the best development of the common school system in the state. You have not only the best common school building in the state, but I believe that your school is the best organization of the kind in the commonwealth." He referred to the Normal department in a very complimentary manner, and spoke of the necessity of a special preparation for teaching. He said that he could see a difference in the teachers in the ward schools, and that the ladies who were graduates of the department, were more scientific and skillful teachers. A high compliment was also paid the Commercial Department. Short addresses were made by Professor R. Curry, A. T. Douthett, Samuel Harper, Esq., and Samuel A French. The visitors consisted of Dr. J. P. Wickersham, George J. Luckey, A. T. Douthett, R. Curry, C. A. Kehew, T. J. Craig, Samuel Harper, Samuel H. French and Mr. Halpin.

ALLEGHENY.

Pursuant to arrangements, State Supt. Wickersham Prof. R. Curry, Supts. Luckey, Douthett and Davis, together with Rev. Jos. King, Arthur Hobson, R. Lea, D. L. Smith and A. F. Marthens, members of the Board of Control, met at City Hall, Allegheny, on Thursday afternoon, for the purpose of visiting some of the Allegheny schools.

The first school visited was the one for colored children, on Sherman avenue, of which Prof. S. A. Neale is principal. Although the visit was not heralded, everything was found in excellent condition. Both teachers and children seemed to highly appreciate the honor conferred on them, and the warm words of encouragement addressed to them by Dr. Wickersham were received with demonstrations of applause.

After taking leave of Professor Neale and his assistants, a few minutes' drive brought us to the Fifth ward schools. Here a cordial reception was tendered to all by Mr. J. M. Conroy, principal. The visitors were conducted through the various departments, and expressed themselves delighted with the exercises, especially the reading. While visiting the High School department in this ward, Dr. Wickersham made a few brief but eloquent remarks to the pupils, congratulating them on the progress they had made, and closing by saying that although they had reached the high school here, it is but a primary school—the great high school is above. One of the most pleasing features of the visit was a gymnastic drill given by the pupils of the school, under the direction of Miss Maud E. Hamilton.

Thence to the Sixth ward schools, where the party was gracefully received by Drs. Riggs and Wallace, Mr. Chambers and B. F. Gamber, the principal, and conducted through the various rooms. On reaching the High School, Dr. Wickersham delivered an entertaining address. Meanwhile the pupils of the other departments, to the number of about 1,500, massed in the hall. They were then marched out, four abreast, in grand review before their guests, presenting a sight rarely equaled.

Again, a few minutes' ride, a halt, and we were in the presence of the principal, W. M. McCullough, and directors of the Ninth ward. Owing to the lateness of the hour, it was found inexpedient to visit the different rooms, and the pupils were accordingly assembled in the hall on the third floor, where a few minutes' speech-making was indulged in by Dr. Wickersham, Prof. Curry, D. L. Smith, A. T. Douthett, and others.

On Friday morning we again set out on our tour of inspection, being joined by Messrs. Patterson, Brown, Barker, McCance, and others. The first schools visited were those of the Second Ward, Mr. D. Denison, principal. After a hasty glance at the various departments, and a speech by Dr. Wickersham to the pupils of the High School, the party hurried on to the Third ward. In the first precinct, Mr. J. N. Caldwell, principal, as well as in the Second, under the control of Miss Fraser, the same programme was carried out.

On arriving at the second precinct of the Fourth ward, the children assembled in the large hall of the building, the walls of which were tastefully adorned with pictures and mottoes. After a song by the schools, the principal, Mr. S. A. Espey, welcomed the party, alluding to the fact that he had formerly been a pupil of Dr. Wickersham. The Doctor replied in a ten-minute speech. He expressed his pleasure at meeting with the children, and paid quite a compliment to their principal, to whom he referred as "one of his boys." He spoke of the greatness of the work of the common schools, its importance and the sacredness of the trust committed to those having it in charge, taking strong ground against making the office of school director a salaried one.

The next place visited was the first precinct of the Fourth ward. Mr. Morrow, principal of the school, welcomed the party, and while he was pleased to see all of them, he extended a special welcome to Professor Wickersham, his former teacher. The different departments of the school were visited. The pupils presented a very fine appearance, and the different rooms were noticeable for neatness. The rare plants and hanging baskets of exquisite beauty, together with the general air of cheerfulness of the children, and the singing of birds, rendered the visit here very pleasant.

The next point was the schools of the First ward, which are under the control of Mr. W. S. Moorhead. This gentleman had not received notice of our coming until a few minutes before our arrival, and consequently had dismissed most of his pupils for dinner. Dr. Wickersham spoke briefly to those present, after which Mr. Marthens, a member of the Board of Controllers, in behalf of the directors, teachers and pupils, made a short address to our distinguished visitor, thanking him for visiting our city, after which the tour of inspection closed.

This is the first official visit paid the schools of Allegheny by the State Superintendent.

OBITUARY.

ABRAM SHANK.

ABRAM SHANK, member of the Board of School Directors, city of Lancaster, died Monday, June 15th, of pulmonary consumption, in the 42d year of his age. For several years past he has been one of the most zealous and active members of the School Board, and was last year the very efficient chairman of the Executive Committee of said Board. He was a student at Millersville in the earliest days of the Normal School, after which he taught for a time in the schools of the county, previous to entering upon the study of the law. He was admitted to the bar in 1859, where by industry and integrity he soon made for himself the honored place which he held up to the hour of his untimely death. In whatever situation found, to whatever duty assigned, he manifested those sterling qualities of honesty and efficiency that render men valuable in any calling. Not a brilliant man, with nothing of noisy bluster and little that seemed to court applause, he did his work quietly and well, and had his reward not in plaudits empty as vain, but rather in the consciousness of good work worthily done. Enough there are, names oftener on men's lips and more familiar to men's eyes, who could better have been spared. The funeral was largely attended by the Masonic and other orders to which he belonged, by the Board of Directors, the teachers employed in the public schools of the city, and the pupils of the high schools. A beautiful tribute to the departed were the flowers scattered upon the coffin by the pupils of these schools as they filed past his open grave. *Manibus date lilia plenis!*

OFFICIAL DEPARTMENT.

DEPARTMENT OF COMMON SCHOOL,
HARRISBURG, July, 1874.

UP to the time of writing, examinations of the senior classes have been held at Kutztown, West Chester, Shippensburg, Mansfield and Edinboro. Kutztown graduated a class of 19, West Chester one of 10, Shippensburg one of 24, Mansfield one of 18, and Edinboro one of 17.

PERMANENT CERTIFICATES GRANTED.

NO.	NAMES.	RESIDENCE.
1212	Miss M. E. Richards	Saltsburg, Indiana Co., Pa.
1213	Miss Tillie L. Allison	Marchand " "
1214	John J. Yeager.....	Ephrata, Lancaster "
1215	Miss Annie E. Spare	Phœnixville, Chester "
1216	Samuel Wynne.	" " "
1217	Charles Twining.....	Union City, Erie "
1218	Miss Agnes Reilly...	Lock Haven, Clinton "
1219	Louisa E. Driver.....	Chester, Delaware "
1220	Ella E. Morrison.....	" " "
1221	Jennie McLaren.....	" " "
1222	Thilon J. Rollman ..	Bethel, Berks, "
1223	S. Agnes Schultz.....	Colebrookdale, " "
1224	Isaac Z. Deck.....	Rehrersburg, " "
1225	Louana Housholder.	Johnstown, Cambria "
1226	P. D. Stoops.....	Butler, Butler "
1227	Wm. H. Cooke.....	Uniontown, Fayette "
1228	J. H. Richmond.....	Allegheny, Allegheny "
1229	Miss A. M. Lubars..	Athens, Bradford "

INSTITUTE INSTRUCTORS.

WE ARE pleased to be able to announce that Mr. W. W. Woodruff is prepared to make engagements as an institute instructor during the approaching season. His success in this line of work heretofore has been flattering to him both as a scholar and a teacher; but not yet fully satisfied, he is busy making further preparation. Superintendents can reach him by letter at Newtown, Bucks county, Pa.

PROF. J. N. FRADENBURGH, Principal of the State Normal School at Mansfield, Tioga county, Pa., is willing to give instruction at a few institutes, especially at those in his own normal school district. Prof. Fradenburgh has had considerable experience in institute work in the state of New York. We have heard his efforts in this line highly spoken of.

PROF. CHAS. H. VERRILL, late Principal of the State Normal School at Mansfield, Pa., and well and favorably known to many of our educational men in Pennsylvania will devote himself to institute work during the coming year. He may be addressed by Superintendents and others, at Homer, New York.

PROF. A. A. BRENEMAN will lecture before institutes during the coming season upon Physical Science. Day or evening lectures. Full experimental illustration. Owing to extensive preparation required, parties desiring his services should make early engagements. Particulars on application. Address Prof. B. at Lancaster, Pa.

NORMAL SCHOOL, TENTH DISTRICT.

APPLICATION.

Hon. J. P. Wickersham, Supt. Common Schools:

SIR: We, the subscribers, trustees of a school corporation, in the borough of California, in the county of Washington, respectfully represent that we, as trustees aforesaid, in association with a number of citizens of this State exceeding thirteen, have erected and established a school for the professional training of young men and women as teachers, at the borough of California aforesaid, in the Tenth Normal School District, and desire to have the same inspected by a committee appointed under the "Act of Assembly" approved May 20th, 1857, with the design of having the institution recognized as a State Normal School, under the name and title of the Southwestern Normal College.

JOHN N. DIXON, *Prest.*
G. G. HERTZOG, *Secy.*
S. H. CRAFT,
L. W. MORGAN,
WM. M. FALL,
A. P. SMITH,
GEO. M. EBERMAN,
A. B DEWALL,
SOLOMON LIBBITT,
JOS. A. LAMBERT,
E. N. LILLEY,
C. L. EHRENFELD.

REPORT.

CALIFORNIA, Pa., May 26, 1874.

WHEREAS, The Southwestern Normal College having made formal application to the Department of Common Schools for the appointment of a committee to examine its claims to be recognized as the State Normal School of the Tenth District, according to the provisions of an "Act to provide for the due training of teachers for the Common Schools of the State," approved the 20th day of May, 1857;

AND WHEREAS, The undersigned being duly appointed and authorized under said Act, and having personally, and at the same time, on the 26th day of May, 1874, visited and carefully inspected said school, and made a careful examination thereof, of its by-laws, rules and regulations, and its general arrangements and facilities for instruction, and having found them to be substantially such as the law requires: therefore

Resolved, That the Southwestern Normal College is, in our opinion, entitled to recognition as a State Normal School, with all the privileges and immunities enjoyed by other institutions of like character in the Commonwealth.

JNO. C. FLENNEKIN, *President*,
G. V. LAWRENCE,
D. KAINE,
W. H. SANNER,
A. B YOUNG,
} *Committee.*

We concur in the above,

J. P. WICKERSHAM, *Supt. Com. Schools.*
J. V. GIBBONS, *Co. Supt. Fayette Co.*
WM. G. FEE, *Co. Supt. Wash. Co.*
T. J. TEAL, *Co. Supt. Greene Co.*

PROCLAMATION.

COMMONWEALTH OF PENNSYLVANIA.
DEPARTMENT OF COMMON SCHOOLS,
HARRISBURG, JUNE 1st, 1874.

WHEREAS, In pursuance of the application to this Department of the Trustees and Contributors to the South Western Normal College, in association with sundry citizens of this State exceeding thirteen, for the appointment of a committee to examine the claims of a school established by them, to recognition as the State Normal School of the Tenth District, according to the provisions of "An Act to provide for the due training of teachers for the Common Schools of the State," approved the 20th day of May, 1857, the following gentlemen were appointed, viz.: Hon. John C. Flennekin, Hon. Geo. V. Lawrence, Hon. Daniel Kaine, Hon. W. H. Sanner, Hon. A. B. Young, to act as said committee, in conjunction with the State Superintendent of Common Schools; J. V. Gibbons, County Superintendent of the County of Fayette; T. J. Teal, County Superintendent of the County of Greene; D. W. Will, County Superintendent of the County of Somerset; William G. Fee, County Superintendent of the County of Washington; and

WHEREAS, All of the Committee so appointed except D. W. Will, after having on the 26th day of May, 1874, visited and carefully inspected said school and made a careful examination thereof, of its by-laws, rules and regulations, and its general arrangements and facilities for study, reported unanimously that said school is entitled to recognition as a State Normal School, with all the privileges and immunities enjoyed by other institutions of like character in this Commonwealth;

Now, Therefore, I, State Superintendent of Common Schools, do hereby give notice as required by law, that I have recognized the school established as aforesaid, as the State Normal School of the Tenth District, composed of the counties of Fayette, Greene, Somerset and Washington.

In testimony whereof I have hereunto set my hand and affixed the seal of the Department of Common Schools, at Harrisburg, the first day of June, 1874.

J. P. WICKERSHAM,
Superintendent of Common Schools.

REPORT OF PROCEEDINGS.

THE following report of the proceedings has been furnished by the Secretary:

Pursuant to a call of the State Superintendent, J. P. Wickersham, the committee to view the ground, buildings and other essentials of this institution, with a view to State recognition, met in the office of the Principal at 10 A. M., May 26, 1874. The committee consisted of the following named gentlemen, viz: Hon. J. P. Wickersham, State Superintendent, Robert Curry, Dept. Supt., Hon. J. C. Flennekin of Waynesburg, Hon. Geo. V. Lawrence of Monongahela City, Hon. Daniel Kaine of Uniontown, Hon. W. H. Sanner of Somerset county, Hon A. B. Young of Pittsburgh, and the County Superintendents of the Counties of Washington, Greene, Fayette and Somerset. The State Superintendent called the committee to order; whereupon J. C. Flennekin was chosen chairman, and Wm. G. Fee Secretary. J. P. Wickersham then stated the duty of the committee, and explained the law in reference to Normal Schools, after which the committee proceeded to visit the different departments of the school then in session. Brief addresses were made by the State Superintentent to the pupils in the model school and to the students in the normal department. Passing from these schools the committee proceeded to examine the various departments of the dormitory and the main building, with the grounds attached. The hour for dining having arrived the committee and students sat down to a sumptuous dinner, to which ample justice was done. At 1 P. M., the committee was called to order by the chairman, and after fully investigating the titles and financial condition of the institution and all other legal requirements, *unanimously* resolved: That the *South Western Normal College*, located at California, Washington county, is declared and acknowledged by the Department of Common Schools as the Normal School of the Tenth Normal District, comprising the counties of Washington, Greene, Fayette and Somerset.

Immediately after this announcement, the committee repaired to the chapel, where a large audience had assembled to listen to speeches from members of the committee and others.

J. C. FLENNEKIN, *President.*
WM. G. FEE, *Secretary.*

BUILDING SCHOOL HOUSES.

W. H. KAIN, Superintendent of York county, in some "Hints to School Directors," gives the following good advice in respect to building school houses. York is by no means the only county that needs it:

"In view of the fact that a large number of school

houses are to be built during the coming summer, I have thought it well to issue this circular, to guard against some of the very common mistakes which are made in building such houses. A general discussion of the construction of school houses would require more time and space than I have to devote to it. I will, therefore, offer only a few suggestions.

"The first duty is to select a suitable and convenient site. In this selection directors should be guided more by good judgment, than by the wishes of some 'influential' person or persons of the district. Some houses are located on much-traveled roads, where the schools are constantly annoyed by noise; others find places in swamps, where the pupils are apt to contract lingering and often fatal diseases; others are perched on some good-for-nothing-else corner, which must always remain cheerless and uninviting. I need not add words to prove such to be improper sites.

"Many school houses are built with very insufficient yards or playgrounds. The State Superintendent advises that 'half an acre, or at the very least, a quarter of an acre, should be secured for every rural school house.' The laws of the State prescribe that directors may occupy one acre of any lands in the commonwealth for a school house The advantages of a good-sized play-ground must be evident to every thoughtful director.

"After the selection of a proper site, comes the erection of a building. The law says this shall be 'suitable,' which implies that it shall be of sufficient size, well adapted for its purpose, and substantially constructed for the least amount of money. A great deal of money has frequently been wasted in this county, and yet all three of the above-named conditions violated. A suitable school building often does not cost as much as an unsuitable one, if the building of it is properly managed. One great source of mistakes is that many persons are called upon to discharge the important duty of building, who never have had an opportunity for learning the real wants of a modern school room. Some rooms are sufficiently large, but are entirely spoiled by an improper distribution of space, if I may so term it. A room intended for fifty pupils, should be from twenty-six to thirty feet wide, and from thirty-two to thirty-six feet long. If a clothes-room is to be included, it must be several feet longer. These ante-rooms are very convenient if properly constructed. If they are omitted, their place may be supplied by shelving on both sides of the entrance door. This should be five or five and a half feet high, twelve or fifteen inches wide, containing at least two or three shelves for dinner baskets, and the lower space being partly closed, could be used for kindling and other articles, not very ornamental if exposed. On one side of the door a place should be fixed for the water bucket. Along the top of these shelves should be hooks for clothing. This shelving which, at most, costs but a trifle, preserves the neatness of the room and saves the clothes. The other end of the room should contain the black-board. No windows should be placed in either gable end. I desire to call particular attention to the arrangement of the black-board. There are no ten schools in the county which have this indispensable piece of furniture at the proper place. Almost invariably it is placed too high. Its height from the floor or platform should, in no ungraded school, exceed twenty inches, and it should not be less than a yard wide. A good-sized chalk-trough should be affixed to prevent pupils from leaning their heads against the slated surface, and prevent the chalk-dust from falling on the floor and being carried about through the school-room. Directors, whatever else you may neglect, do not neglect to provide a good black-board for every school-house! Some brick and some stone houses are plastered against the wall without studding. This should never be done, and especially not where the wall is to be slated, for it will be useless nearly half of the time in consequence of being wet.

"Nearly one-third of the space of a school-room is frequently shut up in a garret which is of no use, save as a home for a few forlorn mice, whose lot has fallen in unpleasant places. The greater portion of this space can be utilized by a proper construction of the ceiling. This should either be arched or moved up about one-third of the way from the wall-plate to the ridge. Either of these constructions, architects say, costs less than the flat ceiling, improves the appearance of the room, and enlarges the capacity. The ceiling should, in all cases, be ten or twelve feet from the floor.

"After the erection of the house comes the furnishing. This should command great care, as comfort is essential to progress in the school-room. Desks and benches of different sizes are as necessary as shoes and hats of different sizes, to suit the children of a rural school. Experience assures me that directors can do no better than introduce some make of 'patent furniture.' A number of attempts have been made to construct home-made furniture answering the same ends, but none have been very successful. The cost of this furniture is but little more than the cost of good home-made, while it is more durable and much more convenient. Another important consideration is that this improved furniture occupies less space than the old.

"Many other suggestions might be made and many other common mistakes pointed out, but I will conclude by urging directors to consult the advice of the State Superintendent (School Laws, pp. 40–44), and some work like Barnard's School Architecture, before determining upon plans for building."

ITEMS FROM LATE REPORTS.

CHESTER.—A three days' institute was held at Parkesburg during the month, and was attended by about 400 persons. Prof. Geo. L. Maris, Dr. Franklin Taylor and Miss Mary K. Schreiner, of West Chester State Normal School, and Prof. J. M. Rawlins of Parkesburg, assisted the County Superintendent.

FRANKLIN.—I am making preparations for holding public examinations, and also visiting the schools in which teachers are qualifying themselves for teaching.

JEFFERSON.—Summer schools will be visited during June and July.

LAWRENCE.—Our schools are closed. We have had a pleasant year in school work, and I feel sure we have done fair work. Our county is paying better salaries than heretofore, consequently have better teachers and better teaching.

PERRY.—Many substantial evidences of progress are visible in the schools. A number of houses in the rural districts will be supplied during the summer with new desks and other furniture.

SOMERSET.—Steps are being taken to erect a large school building in New Centreville, by the village board, aided by the neighboring districts.

MISCELLANY.

EVEN our first statesmen, the most successful ones, as a general rule, have had the benefit of trades in their younger days. Stephen A. Douglas was a cabinet-maker; Abraham Lincoln, a rail-splitter; Benjamin Franklin and Horace Greeley, printers; Thaddeus Stevens, a shoe-maker; Henry Wilson, Vice-president, a cobbler; N. P. Banks, a factory-man; Peter Cooper, a glue manufacturer, and hundreds we might name, were it necessary, to prove that it is always safe for boys to learn to work, and that the mad chase after professions and situations is one of the most serious mistakes of the nineteenth century. We want and need all the institutions of learning that we have, and many more; but do not want or need the pernicious teaching that in order to command success, respect and eminence in the world, we must shun manual labor.

IT has been said that every man comforts himself with the assurance that there are two things he can accomplish whenever he feels inclined—give up the use of tobacco and learn French. He may never have felt the inclination, but he flatters himself he has enough latent moral strength to accomplish his purpose whenever circumstances may call for the effort. It may interest those who contemplate learning French at some undefined and remote period, to know that only 750 words of any language need be learned to enable the learner to make himself understood with tolerable freedom. It is also said that the agricultural laborers in England use a vocabulary containing only 450 words, and find this limited number sufficiently ample for their daily wants.

THE President of the United States never draws his salary himself, but receives it through the First National Bank, to which he has given a power of attorney, and the money is always drawn from the Treasury by the cashier of that bank, and placed to the credit of the President in the bank. The warrants for the salary of the President and Vice President are made out at the Treasury every month, the former under the new law receiving $4.166.66 per month, and the latter $833 33. Members of the Cabinet are paid from the rolls of their respective departments, and receipt therefor the same as all other employees. The President and Vice-President do not sign any pay-roll.

We slight the gifts that every season bears,
And let them fall unheeded from our grasp,
In our great eagerness to reach and clasp
The promised treasure of the coming years.

Or else we mourn some great good passed away,
And, in the shadow of our grief shut in,
Refuse the lesser good we yet might win,
The offered peace and gladness of to-day.

So through the chambers of our life we pass,
And leave them, one by one, and never stay;
Not knowing how much pleasantness there was
In each, until the closing of the door
Has sounded through the house, and died away,
And in our hearts we sigh, "Forevermore."

—*Chambers' Journal.*

SIR ISAAC NEWTON had among his acquaintances a philosopher who was an atheist. It is well-known that this illustrious man, who takes the first rank as a mathematician, natural philosopher, and astronomer, was at the same time a Christian. He had in his study a celestial globe, on which was an excellent representation of the constellations and the stars which compose them. His atheist friend, having come to visit him one day, was struck with the beauty of this globe. He approached it, examined it, and said to him, "Who made it?" "No one!" replied the celebrated philosopher. The atheist understood, and was silent.

HOW HE WAS SILENCED.—At a recent meeting in which there was much religious interest, an old man gave expression to his joy by shouting, and continued it until it began to interrupt the services. Brother H. said to Brother W., "Go, stop that old man's noise." He went to him and spoke a few words, and the shouting man at once became quiet. "Brother H.," asked Brother W., "what did you say to the old man that quieted him so promptly?" Brother W. replied, "*I asked him for a dollar for Foreign Missions.*"

A SCHOOL boy being requested to write a composition on the subject of "pins," produced the following: "Pins are very useful. They have saved the lives of a great many men, women, and children—in fact, whole families." "How so?" asked the puzzled teacher; and the boy replied, "Why, by not swallowing them." This matches the story of the other boy who defined salt as "the stuff that makes potatoes taste bad when you don't put any on."

"Get out of the way,—what are you good for?" said a cross old man, to a little bright-eyed urchin, who happened to stand in the way. The little fellow, as he stepped to one side, replied very gently: "They make men out of such things as we are."

IT is suggested that the speediest and most economical way of carrying out the doctrine of the inflationists would be to simply repeal the law against counterfeiting.

A native King in Upper Egypt having recently died, his wives were buried alive with him. A number of human beings were afterwards sacrificed over his grave.

Schoolmistress.—"Johnny, I'm ashamed of you. When I was your age, I could read as well as I do now." Johnny.—"Aw, but you'd a different teacher to what we're got."

A German Jew was eating a pork chop in a thunderstorm. On hearing an unusually loud clap, he laid down his knife and fork and observed: "Vell, did any poty efer hear such a fuss about a little biece of pork?"

A Southern journal issues the following notice: "Many people ask for papers at this office who would scorn to beg for five cents; yet that is the price charged for a copy. We hope they see the point."

A Georgia negro who bet ten dollars that General Washington commanded the Federals at Bull Run, handed the money over with the remark: "Well, dis yere hist'ry business is all mixed up anyway."

A man was arrested in New York on the 18th instant, in the act of brutally beating his wife. His only excuse was that "she needed it once a week."

A boy in Fillmore county, Minn., was lately sent to jail for 18 days, for trying to "boss" the school.

The customs returns show that the use of tobacco is decreasing in England.

A pair of zebras have been trained and broken to harness in Paris.

Bituminous coal has been discovered in Washington Territory.

GRANDEUR OF SONG.—God has made the whole earth vocal with sweet sounds. The untraveled forest echoes the notes of the wild bird, and the habitations of men are made glad by the warbling of caged singers. But above all, the human voice, which combines the highest charm of sweet sounds with the inspiration of thought, is given not alone for the ordinary purposes of human pleasure. Its whisper of affection, how grateful; its expression of religious devotion, how exalted; its solace in trouble, how dear; its participation in joy, how unspeakable! Vocal music is the heritage of all classes. The palace may be furnished with instruments of superior tone and workmanship; but the cottage may vie with the palace in the rich tones of the voice and the extent of its compass. So while the difficult score of some elaborate piece may be executed with finished exactness by an inmate of a palatial mansion, the simple song of the peasant girl, as homeward she comes from the meadows, shall win the silent admiration of those who pause as they listen to the voice that, with liquid notes, intoxicates the ear. The language of song is the language of heaven. The deep emotions that so stirred the soul of Israel's shepherd-king, found expression only in words to

HOME, SWEET HOME.

By JOHN HOWARD PAYNE.

1. 'Mid pleas - ures and pal - a - ces though we may roam, Be it ev - er so
2. I gaze on the moon as I tread the drear wild, And feel that my
3. An ex - ile from home, splendor daz - zles in vain; Oh, give me my
hum-ble, there's no place like home; A charm from the skies seems to hal - low us
moth - er now thinks of her child; As she looks on that moon from our own cot-tage
low - ly thatch'd cot - tage a - gain; The birds sing-ing gaily, that came at my
there, Which, seek thro' the world, is ne'er met with elsewhere. Home, home,
door, Thro' the wood - bine whose fragrance shall cheer me no more. Home, etc.
call; Give me them, and that peace of mind, dear - er than all. Home, etc.
sweet, sweet home, There's no place like home, Oh, there's no place like home.

which his harp could form its fitting accompaniment, and his voice give utterance in sacred psalm.

THREE VERSES.—We insert this song as a sweet-voiced mother sang it, decades since, by fireside and cradle. It is not "Home, Sweet Home" to us without the familiar second verse which, as a friend says, "belongs there." The homeless author, John Howard Payne, left nothing else of merit, either song or poem. Nor is anything besides needed to rescue his name from oblivion. Nobler fame to have written this little song than to have wielded the sceptre of the First Napoleon! An old book, published a half century since, lies before us, in which the song appears in five stanzas,—the first three of these are here given. It may originally have been so written, the author afterwards retaining but two of the favorite verses; at all events, our mothers sang it thus when "Home, Sweet Home" was new, some fifty years ago.